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Canada. Parliament. Select
Standing Committee on Agriculture
and Colonization.

Minutes of Proceedings and
Evidence.

March 14 - May 15, 1929.

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SESSION 1929

HOUSE OF COMMONS

Government
Publications

MINUTES OF PROCEEDINGS AND EVIDENCE

OF THE

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

Respecting the Statutory Grades of Barley.

Thursday, March 14, 1929

Witnesses: Dr. Grisdale, Deputy Minister of Agriculture; Dr. Newman,
Dominion Cerealist; Messrs. Folliott, Burnell, and McFarland.

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

THURSDAY, March 14th, 1929.

The meeting came to order at 11 a.m., Mr. Kay presiding.

Members present: Messrs. Bancroft, Bouchard, Boulanger, Brown, Campbell, Carmichael, Coote, Denis, Fansher (Last Mountain), Garland (Bow River), Howden, Kay, Lucas, McKenzie, McMillan, Morin (Bagot), Plunkett, Ross (Moose Jaw), Senn, Steedsman.

The Committee took under consideration the question of the Grading of Barley.

Dr. L. H. Newman, Dominion Cerealists, Chairman of several important Sub-Committees of the National Barley Committee was called and reviewed the Barley situation as it exists in Canada. He stated that the National Barley Committee were of the opinion that the whole situation would be improved materially if the grades of barley were amended and submitted the following draft of a number of Barley Grades which would constitute an improvement over grades as they now exist in the Canada Grain Act.

SUGGESTED BARLEY GRADES

MALTING GRADES

No. 1 Canada Western 6 Row Barley shall be composed of 95 per cent 6 Row Barley of the same variety or type, and of equal value for malting purposes to O.A.C. No. 21, shall be plump, bright, sound, clean, practically free from other grain and weighing not less than 48 pounds per measured bushel.

No. 2 Canada Western 6 Row Barley shall be composed of 95 per cent 6 Row Barley of the same variety or type, and equal in value for malting purposes to O.A.C. No. 21, shall be reasonably clean, sound, reasonably free from other grain, but not bright or plump enough to be graded No. 1, weighing not less than 48 pounds per measured bushel.

No. 3 Extra Canada Western 6 Row Barley shall be composed of 90 per cent 6 Row Barley equal in malting value to O.A.C. No. 21, shall be reasonably clean, sound and reasonably free from other grain, may include weather stained Barley and weigh not less than 48 pounds per measured bushel.

No. 1 Canada Western 2 Row Barley shall be composed of 95 per cent 2 Row Barley of the same variety or type and of equal value for malting purposes to Canadian Thorpe, shall be plump, bright, sound and clean, practically free from other grain, weighing not less than 50 pounds per measured bushel.

No. 2 Canada Western 2 Row Barley shall be composed of 95 per cent 2 Row Barley of the same variety or type and of equal value for malting purposes to Canadian Thorpe, shall be reasonably clean, sound, reasonably free from other grain, but not bright or plump enough to be graded No. 1, weighing not less than 50 pounds per measured bushel.

No. 3 Extra 2 Row Barley shall be composed of 90 per cent 2 Row Barley equal in malting value to Canadian Thorpe, shall be reasonably clean, sound, reasonably free from other grain, may include weather stained Barley, and weigh not less than 50 pounds per measured bushel.

TREBI GRADES

No. 1 Canada Western Trebi Barley shall be composed of 95 per cent Barley of Trebi type, shall be plump, bright, sound, clean, practically free from other grain and weighing not less than 45 pounds per measured bushel.

No. 2 Canada Western Trebi Barley shall be composed of 95 per cent Barley of Trebi type, shall be reasonably clean, sound, reasonably free from other grains, but not bright or plump enough to be graded No. 1, weighing not less than 48 pounds per measured bushel.

No. 3 Extra Canada Western Trebi Barley shall be composed of 90 per cent Barley of Trebi type, shall be reasonably clean, sound, reasonably free from other grain, but may include weather stained Barley and weigh not less than 48 pounds per measured bushel.

FEED GRADES

No. 3 Canada Western Barley shall be Barley which is not pure enough as to variety or free enough from other grain to be classed in the preceding grades. It shall be reasonably clean and weigh not less than 45 pounds per measured bushel.

No. 4 Canada Western Barley shall include damaged Barley, weighing not less than 42 pounds per measured bushel. It may contain 15 per cent Wild Oats or Wild Oats and Seeds, or 10 per cent of other domestic grain; it shall not contain more than 3 per cent of Seeds.

Feed Barley shall include all Barley excluded from the preceding grades on account of light weight or mixtures. It may contain 25 per cent of Wild Oats or Wild Oats and Seeds or 20 per cent of other domestic grain; it shall not contain more than 5 per cent Seeds.

NOTE.—All Barley classed as “No Grade” Tough or Damp and artificially Dried shall not be graded higher than No. 3 Canada Western Barley.

The following named gentlemen appeared and addressed the Committee:—

Mr. Folliott, Manitoba Pool Official.

Dr. Grisdale, Deputy Minister of Agriculture.

Mr. Burnell, President of the Manitoba Pool.

Mr. C. D. McFarland, Canada Malting Company.

After lengthy discussion and consideration of the draft amendments it was moved by Mr. Coote, seconded by Mr. Garland (Bow River), that the definitions of the grades of barley under the Act be amended to read as follows:—

BARLEY GRADES

SIX-ROW BARLEY

No. 1 Canada Western Six-Row Barley shall be composed of 95 per cent six-row barley of one variety or type, and equal in value for malting purposes to O.A.C. 21. It shall be sound, clean, practically free from other grain, plump, bright and weigh not less than 49 pounds to the bushel.

No. 2 Canada Western Six-Row Barley shall be composed of 95 per cent six-row barley of one variety or type and equal in value for malting purposes to O.A.C. 21. It shall be sound, reasonably clean, reasonably free from other grains but not plump or bright enough to be graded No. 1, and shall weigh not less than 48 pounds to the bushel.

No. 3 Extra Canada Western Six-Row Barley shall be composed of 85 per cent six-row barley equal in value for malting purposes to O.A.C. 21. It shall be sound, reasonably clean, reasonably free from other grains, but may include weather stained and slightly shrunken barley and shall weigh not less than 47 pounds to the bushel.

TWO-ROW BARLEY

No. 1 Canada Western Two-Row Barley shall be composed of 95 per cent two-row barley of one variety or type and equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, clean, practically free from other grain, plump, bright and shall weigh not less than 50 pounds to the bushel.

No. 2 Canada Western Two-Row Barley shall be composed of 95 per cent two-row barley of one variety or type and equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, reasonably clean, reasonably free from other grains, but not plump or bright enough to be graded No. 1, and shall weigh not less than 49 pounds to the bushel.

No. 3 Extra Canada Western Two-Row Barley shall be composed of 85 per cent two-row barley equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, reasonably clean, reasonably free from other grains, but may include weather stained and slightly shrunken barley and shall weigh not less than 48 pounds to the bushel.

TREBI BARLEY

No. 3 Extra Canada Western Trebi Barley shall be composed of 85 per cent barley of Trebi type. It shall be sound, reasonably clean, reasonably free from other grain, but may include weather stained and slightly shrunken barley and shall weigh not less than 48 pounds to the bushel.

No. 3 Canada Western Barley shall be barley composed of any variety or type or combination of varieties or types, shall be reasonably clean and reasonably free from all other grains, may include weather stained and slightly shrunken but sound barley and weigh not less than 45 pounds to the bushel.

No. 4 Canada Western Barley shall be Barley composed of any variety or type or combination of varieties or types and may include all damaged barley weighing not less than 42 pounds to the bushel.

Carried.

The Committee adjourned until 4 p.m. in the afternoon.

A. A. FRASER,
Clerk of Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS,

THURSDAY, March 14, 1929.

The Select Standing Committee on Agriculture and Colonization met at 11 o'clock, the Chairman, Mr. Kay, presiding.

The CHAIRMAN: Gentlemen, we will take up this morning the question of the grading of barley. There is a National Barley Improvement Committee, of which Dr. Grisdale is Chairman. He is occupied with a conference on the maple products industry at the moment, but will come in later. Dr. L. H. Newman is Chairman of several important sub-committees of this National Barley Improvement Committee, and I will ask him to open the proceedings this morning.

Dr. L. H. NEWMAN, called.

The WITNESS: Mr. Chairman and gentlemen: probably it would be well at the outset to review the barley situation as it exists in Canada, and the circumstances which have led up to a revival of interest in this important crop. During the past eight years the production of barley in Canada has a little more than doubled. A great deal more interest is being taken in the barley crop now than formerly, but some of us think that the interest is not yet sufficiently great. We have prepared a little pamphlet which has been distributed which will give you some of these figures, so I will not delay you by going into all of these statistics. Canada exported of the last crop 26,000,000 bushels of barley. Around 65 per cent of all the barley exported went to the United Kingdom. Germany is becoming an increasingly large purchaser of our barley. The production this year is not given in the pamphlet; the estimated production is something like 114,000,000 bushels of barley. Manitoba is the largest producer of barley; in fact, it produces more than one-half of all the barley produced in Canada.

Honourable Mr. Crerar who was looking into the barley situation some time ago in the Old Country made this statement on his return: "I was particularly impressed with the European demand for barley, which is being used in large quantities for feed and for the manufacture of malt. Apparently it is going to pay Canadian farmers to give increasing attention to the production of a good variety of barley."

In the spring of 1927 I happened to be in Europe in connection with some other work, and I took advantage of the opportunity to inquire into the barley situation as it affects Canada, and I was impressed at that time with two things; first, with the very dirty condition of Canadian barley as it arrived in the Old Country, and secondly, with the cleanliness of the barley being imported from other countries. I have here a picture which gives you a very good idea of this matter. All of these four parcels were mixed together once and then separated. This block in the corner (indicating) represents the clean barley; this (indicating) is wheat, this (indicating) is wild oats, and this (indicating) is the chaff and dirt. That mixture was taken from an ordinary cargo of barley arriving in the Old Country, and explains very well why the Old Country

[Dr. Newman.]

buyers of our barley are not very much impressed with the quality we send them. Hitherto our barley has been used almost exclusively for feeding purposes. The maltsters were not interested in the ordinary varieties of barley, but they wanted a good quality to come from Canada for malting purposes, and it is not hard to understand their attitude toward our grain.

In August, 1927, on my return from the Old Country, a meeting was held at Birtle, Manitoba. Mr. MacLeod and Professor Harrison of Winnipeg were present, together with a large number of growers interested in this crop. The whole question of how we might go about improving the barley crop was discussed at some length, and certain recommendations were made. Owing to the fact that several of the provinces were interested in this question, the federal department of Agriculture decided to call a conference. This conference was held in Ottawa, February 27, 1928, and was largely attended. On that occasion the whole question was gone into, all the phases of barley production, marketing, and grading, and several committees were appointed. One committee was to study the valuation of varieties; another the extension of markets and so on. These committees have been functioning since that time.

Another meeting was held on June 13, 1928, at Quebec on the occasion of the annual meeting of the Seed Growers Association. Reports from these committees were received and certain further recommendations made.

Then, on August 8, 1928, a meeting of the Market Extension Committee was held in Winnipeg, and another one at the Experimental Farm at Brandon a few days later. On the occasion of these two latter meetings it was decided to assemble a considerable quantity—several thousand bushels—of barley of the O.A.C. 21 price, and the Trebi type. The O.A.C. 21 is the most commonly grown variety in western Canada; the Trebi is a six-row barley and belongs to the bay brewing type which is coming into Manitoba largely from California. It was decided to assemble at the head of the lakes a shipment of several thousand bushels of these two lots, and hold them in readiness to be sent to the Old Country if circumstances should warrant their shipments. The pool being very vitally interested in this whole undertaking agreed to do its part in the enterprise by assembling this grain and holding it in special bins at one of its elevators at the head of the lakes. Samples were taken from these two lots and sent to the Old Country and put on display at the national buyers exhibition held in London in November, 1928. There was a stand erected at that exhibition by the Federal Department of Agriculture, which department assumed as its part of this co-operative undertaking the financing of this stand and the furnishing of a special man, whom we were fortunate enough to get in the Old Country, a Mr. McKechnie, a man of wide experience who had charge of this stand. We have here a detailed report of this situation and of the attitude of the Old Country maltsters toward our grain, looking toward our grain as possibly suitable if properly prepared for the malting business. Generally speaking—and without going into details—that grain created a good deal of interest; samples were taken away by the different maltsters and submitted to malting tests and we have their individual reports on these samples. There appears to be a great deal of spade work still to be done in spite of the interest taken. The Old Country buyer is a very picky buyer; he has several countries from which to select his wares, and he buys from that country which supplies with material which suits him best, price included, naturally. So, notwithstanding that fact, the Committee feels there is an opportunity that is at least worth while for us in Canada to investigate this whole matter and to determine if possible whether or not there are any districts which are capable of producing a high quality of barley for malting purposes, because this barley ought to be used for malting purposes for brewing and should bring the highest price. Already some of our barley

is used for distilling, but it is not bringing as high a price as barley which is to be used for brewing should. The different provinces as well as the federal department are therefore undertaking a rather extensive project with the view of determining what varieties, and under what conditions, those varieties may be best produced. It will probably be two or three years before we can make any very definite report. The last meeting of the Committee was held January 28th in Winnipeg. This was the annual meeting of the National Barley Improvement Committee presided over by Doctor Grisdale. At this meeting the reports of this shipment were received and a considerable discussion took place as regards the question of barley grades. The sub-committee on grades made its report and was instructed to look into the matter still further and to confer with representatives of the inspection department at Winnipeg. We held a meeting in connection with the inspection people at Winnipeg and agreed upon certain definitions and certain standards for the suggested grades. The Committee believes that this whole situation will be improved materially if the grades of barley are amended, and if certain grades are included which may be regarded as malting barley grades. At the present time there is not a very great incentive for our barley growers to put in a great deal of barley. As those of you who come from the west probably know, barley has been regarded largely as a secondary crop and has been relatively neglected to quite an extent. We feel, however, that if certain grades are provided the standards of which are relatively high and if these grades, known as malting barley grades, can be produced and can bring a little premium over and above the present feed grain, there should be a very distinct incentive to our farmers to pay a greater attention to this important problem. We have, therefore, prepared for your consideration the draft of a number of barley grades which we think may constitute an improvement over the grades as they now exist in the Canadian Grain Act.

That, gentlemen, is roughly the circumstances—the situation leading up to the preparation of these grades. This Committee is still working. It has done a good deal of useful work on them; and it is now prepared to bring before you some concrete evidence of its effort.

By Mr. Brown:

Q. Have those suggestions been embodied in a draft bill at all?—A. Not yet, Mr. Brown.

By Mr. Coote:

Q. Have you any facilities, for testing the malting qualities of barley?—A. At the present time, Mr. Coote, the malting work has been done really by the malting people—companies. The Canada Malting Company almost entirely has been co-operating, because that concern, I might have said, is very much interested in this whole question, although we are speaking now particularly, or have been, of the export trade in barley. They believe that anything that will tend to create a greater interest in the barley crop will be of great advantage and make it possible to get other qualities of more suitable material for their purpose here in Canada. They have been co-operating splendidly in connection with malting tests, and have prepared in the past two or three years very fine reports on different varieties which they have malted. At the college in Winnipeg they are preparing a laboratory to make certain tests.. We hope to be able to have an equipment capable of handling that sort of work for all the provinces outside of Manitoba in the course of the present year. I might say we have here to-day Mr. Folliott of the Pool who was appointed with myself as a committee to present these grades and to discuss this matter with you here to-day.

By Mr. Garland (Bow River):

Q. I would like to ask the witness if he has made any investigation of the barley that is known as Barks, produced along the C.P.R.?—A. Yes, Barks Barley has been investigated and Trebi Barley has come to occupy a much larger place. It has really come to take the place of Barks which is a little late in maturing. It is pretty much the same type.

Q. Trebi is a better malt barley?—A. It is not really regarded as a malt barley in the ordinary sense, but Trebi corresponds with the type called Bay Brewing which is brought in from California into the old country. They bring in about 400,000 tons annually into the old country. The malt is used for blending with the English and Scotch barley malts to give quick clarification and drainage. The situation in the old country has changed very considerably during the last few years, since the war particularly, in that the heavy excise which is imposed on the alcoholic content has caused the brewer to reduce the alcoholic content to quite an extent in his beer, with the result that they have now to make a beer which will clarify quickly, because it must be used quickly. If you reduce the alcoholic content very much you cannot keep this beer as long as old beers had to be kept when clarifying, and in order to get quick clarification, settling, and good colour they have to make them twenty-five and thirty per cent of a type of barley similar to Trebi, and with barley that for the present has been brought in from California—this is Bay Brewing type of barley. Our interest in Trebi is on account of the fact that it might occupy quite a place for blending purposes.

By Mr. Coote:

Q. If you hope to produce barley to use for malting, it must be practically free from weeds?—A. Yes, it must be clean, sound, and of good colour.

Q. There would be no difficulty about removing wild oats from barley, I suppose?—A. No.

Q. It might be difficult to remove wheat?—A. You can get it out well enough for the purpose. What they want is barley that is of good colour, of golden colour, mature, and they want barley of the same variety. The variety as Mr. Barnell explained yesterday should germinate—

By Mr. Steedsman:

Q. It is considerably more difficult to separate Durum wheat?—A. Yes, it would be.

Q. In the areas you spoke of?—A. Yes, excepting Trebi. Trebi, O.A.C. 21, Canaddian Thorpe, Hannchen—these are the four varieties which are the leading varieties in Canada both from the feeding and the malting standpoint.

By Mr. Fansher (Last Mountain):

Q. Does the nature of the different soils in Canada have any effect on the different barleys in their quality?—A. We do not know, Mr. Fansher, definitely; but it is one of the lines of the investigation that this research is directed towards.

By Mr. Lovie:

Q. Would the price for malt barley make it worth while to raise it?—A. When ordinary 3 C.W. barley is quoted here in Broomhill's Grain Trade News at 39 shillings a quarter, good malting barleys will run about 59 to 60, and sometimes 65.

Q. What grade would malted barley be?—A. They are not particularly interested in grades over there, but what they want is barley that conforms

with their requirements—malting barley, sound, clean, uniform and true to type and so on. It is because we have not anything higher than the 3 C.W. that has caused this Committee to suggest that there be other grades added which would make it possible to go.

Q. I know there are no barley grades higher than 3 C.W., but there are lots of good barley raised which seems to be away above the standard?—A. Yes, the grading of barley up to the present time has been based pretty largely on the weed seed content—wild oats.

By Mr. Coote:

Q. Can you tell us anything about yielding power?—A. Trebi is at the head of the list. It heads the list in 27 stations in the United States, and is second in nine other states. It is high yielding. It is inherently a high yielding barley.

By Mr. Brown:

Q. What is the general experience of the yield in O.A.C. 21?—A. It is a good barley.

Q. We have not found it a high yielding barley?—A. It has been one of the best barleys, but O.A.C. 21 is having to give way to some of these new inventions. As a yielder it cannot compare with Trebi.

Q. I believe that the older varieties have given high yields?—A. Yes, in some places.

By Mr. Lovie:

Q. Is O.A.C. a malting barley?—A. It is liked in Canada for malting purposes.

By Mr. McMillan:

Q. How does the quality compare with eastern Canada O.A.C. 21 in malting properties?—A. Compare with what?

Q. With the west?—A. It seems to me that the opinion so far is that the Ontario A.O.C. barley is likely to be less flinty, therefore a little more desirable than in the west as a rule; but Mr. McFarland of the Canada Malting Company is here and he can tell you much more about that sort of thing than I can.

Witness retired.

Mr. W. C. FOLLIOTT, called.

The WITNESS: Gentlemen, the Canadian Wheat Pool this year will have to handle about 20,000,000 bushels of western Canada barley, and in that regard we have had considerable difficulty in marketing barley due to the fact that as far as high grade barley is concerned we have not had suitable grades to take care of them. We had in the Canada Grain Act a grade known as Three Extra barley. The quality of barley going into this grade has not been very great. The bulk of high grade barley has graded Three barley as a consequence, due to the fact that in the grading of barley in Canada there is a six-rowed and a two-rowed barley, and various types of barley. As a consequence, Three C.W. barley contains a mixture of both two- and six-rowed barley, and the various types of barley. In endeavouring to sell a malster outside of Canada we find it quite difficult—quite impossible for us to trade with them due to the fact, as I have stated before, that our 3 C.W. is a mixture of both two-rowed and six-rowed, and vice versa. It is quite impossible to sell a man who uses six-rowed barley our 3 C.W. because he cannot use a mixture of two-rowed and six-rowed barley.

[Mr. Folliott.]

Now, we are therefore very much in accord with the suggestion made by the National Barley Committee that the grades be so changed that we will have grades that will take care of both two and six rowed barley. If these changes are made it will mean that the terminals at Fort William and Port Arthur, and the various terminals, will be obliged to bin these grades separately—these types separately. In so doing that will give us an opportunity to handle the non-pool demands of western Canada, of being able to market two-rowed barley to maltsters who can use two-rowed barley, and likewise a chance to sell a man that uses six-rowed barley, six-rowed barley without having any mixture of the two types.

I do not think the Grain Act as it is at the present time takes care of any grades for malting purposes, and we feel that these changes suggested by the National Barley Committee will take care of such a case. In connection with what Mr. Newman has said with regard to the shipment, or with regard to the getting together of a quantity of O. A. C. 21, or Trebi barley at Fort William, it might be interesting to this Committee to know that we were unable to make any sales of these two particular lots to maltsters on the other side. As Mr. Newman has stated, maltsters were sent over to this National Brewers Convention and the brewers undoubtedly took considerable interest in it, but for some reason or other they were not sufficiently interested in it to make purchases at that time.

To show you just the advantage of having particular types separate, I might state that in the case of the O. A. C. 21, this barley was picked by Professor Harrison of the Manitoba Agricultural College at various farms in southern Manitoba. It was taken to the local elevator, shipped on to Fort William; the samples at Winnipeg were handled by Professor Harrison, and at Fort William we special binned the grain in one of our elevators at that point. When we found that the United Kingdom maltster was apparently not very much interested, we endeavoured to dispose of this barley elsewhere, and in January we were able to sell a lot of O. A. C. 21, an amount of about 20,000 bushels. We were able to sell that barley to the Canada Malting Company at a premium of 12 cents a bushel over what ordinary 3 C. W. was trading at. Of course, you can appreciate that in assembling this barley and special binning it, and one thing and another, it costs something to do that, but we figure that, allowing for say seven cents a bushel to take care of such handling and incidental expenses, we were getting a premium of five cents a bushel over what the man who had just as good O. A. C. 21 barley. But through our grading at the present time his barley would go into 3 C. W. barley, its identity would be lost and mixed with six-row barley, and he would not have an opportunity of being able to get any such premium. I do not know that I have anything further to say.

By Mr. Donnelly:

Q. Have you copies of the proposed amendments to the Grain Act?—A. Yes, I have. I have just the one copy here. You will have to take a copy of the present Grain Act to make a comparison.

By Mr. Garland (Bow River):

Q. Could you quote from the Act and make the comparison?—A. These are the suggested grades as agreed upon by the National Barley Committee. Trebi, three grades.

Number 1 Canada Western Six-Row Barley shall be composed of 95 percent six-row barley of the same variety or type, and of equal value for malting purposes to O. A. C. No. 21, shall be plump, bright, sound, clean, practically free from other grain and weighing not less than 48 pounds per measured bushel.

[Mr. Follitt.]

Number 2 Canada Western Six-Row Barley shall be composed of 95 per cent six-row barley of the same variety or type, and equal in value for malting purposes to O. A. C. No. 21, shall be reasonably clean, sound, reasonably free from other grain, but not bright or plump enough to be graded No. 1, weighing not less than 48 pounds per measured bushel.

Number 3 Extra Canada Western Six-Row Barley shall be composed of 90 per cent Six-Row Barley equal in malting value to O. A. C. No. 21, shall be reasonably clean, sound and reasonably free from other grain, may include weather stained barley and weight not less than 48 pounds per measured bushel.

No. 1 Canada Western 2 Row Barley shall be composed of 95 per cent 2 row barley of the same variety or type and of equal value for malting purposes to Canadian Thorpe, shall be plump, bright, sound and clean, practically free from other grain, weighing not less than 50 pounds per measured bushel.

No. 2 Canada Western 2 Row Barley shall be composed of 95 per cent 2 Row Barley of the same variety or type and of equal value for malting purposes to Canadian Thorpe, shall be reasonably clean, sound, reasonably free from other grain, but not bright or plump enough to be graded No. 1 weighing not less than 50 pounds per measured bushel.

No. 3 Extra 2 Row Barley shall be composed of 90 per cent 2 row barley equal in malting value to Canadian Thorpe, shall be reasonably clean, sound, reasonably free from other grain, may include weather stained barley, and weigh not less than 50 pounds per measured bushel.

By Mr. Lucas:

Q. You call it No. 3 Extra. Would you leave the 3 C. W. as at present?
—A. We come to the 3 C. W. after that, which may contain a mixture of both two-rowed and six-rowed barley; but these two grades may only contain either 2-rowed or 6-rowed barley.

Trebi Grades:

No. 1 Canada Western Trebi Barley shall be composed of 95 per cent barley of Trebi type, shall be plump, bright, sound, clean, practically free from other grain and weighing not less than 45 pounds per measured bushel.

No. 2 Canada Western Trebi Barley shall be composed of 95 per cent barley of Trebi type, shall be reasonably clean, sound, reasonably free from other grains, but not bright or plump enough to be graded No. 1, weighing not less than 48 pounds per measured bushel.

No. 3 Extra Canada Western Trebi Barley shall be composed of 90 per cent barley of Trebi type, shall be reasonably clean, sound, reasonably free from other grain, but may include weather stained barley and weigh not less than 48 pounds per measured bushel.

Then we come to 3 C. W. Barley.

By Mr. Lovie: (Not a member of the Committee).

Q. Why did you give a lower standard in weight to Trebi than to O. A. C.?
—A. It was felt that owing to the fact that most of the malsters here in Canada particularly do not care very much for Trebi barley we thought we might be a little more lenient with it. That is a matter for discussion.

[Mr. Folliott.]

Q. Take barley with a 48 standard, how will it sell in the Old Country where the standard is 56 pounds?—A. Barley is 48 pounds.

Q. In the Old Country?—A. Here it is 48.

Q. It is 56 for barley in Great Britain?—A. Yes, but here it is 48.

Q. How is that going to sell in competition with barley weighing 56 pounds to the bushel? Do you not think you had better set a higher standard here and try to aim at it?—A. Of course, when they buy our barley—as far as we are concerned we are selling it on the basis of 48 pounds to the bushel.

Mr. Ross (Moose Jaw): Is barley in the Old Country 56 pounds to the bushel?

Mr. NEWMAN: Yes. I have a paragraph here from a publication of the British Ministry of Agriculture and Fisheries. It is a report on the marketing of wheat, barley and oats in England and Wales:

These are the important factors in feeding and milling types of barley. The drier nature of imported barleys makes them more desirable for provender milling than home grown grain. Whereas the latter contains from 16 to 17 per cent of moisture, the imported kinds contain, as a rule, from 11 to 12 per cent. Home grown barley, however, has generally a higher bushel weight than imported barley. It is bought and sold, as a rule, on the basis of 56 pounds to the bushel, but on the average of the ten years, 1918-27, its natural bushel weight was estimated at 53.8 pounds. This might be compared with, say, No. 1 Canadian Western, the bushel weight of which is 48 pounds, and number 3, which has a bushel weight of only 46 pounds.

So the reason, apparently, for a greater standard there is the difference in the moisture content.

The WITNESS: When we are making our price on barley we are figuring on 48 pounds to the bushel.

Our suggestion for No. 3 Canada Western Barley is:—

No. 3 Canada Western Barley shall be Barley which is not pure enough as to variety or free enough from other grain to be classed in the preceding grades. It shall be reasonably clean and weigh not less than 45 pounds per measured bushel.

No. 4 Canada Western Barley shall include damaged Barley, weighing not less than 42 pounds per measured bushel. It may contain 15 per cent wild oats or wild oats and seeds, or 10 per cent of other domestic grain; it shall not contain more than 3 per cent of seeds.

Feed Barley shall include all barley excluded from the preceding grades on account of light weight or mixtures. It may contain 25 per cent of wild oats or wild oats and seeds or 20 per cent of other domestic grain; it shall not contain more than 5 per cent of seeds.

Now, that grade we have suggested for 3 C.W. Barley as against our present 3 C. W. Barley, which reads as follows:—

No. 3 Canada Western Barley shall be reasonably clean and reasonably free from all other grain; shall include weather stained and slightly shrunken but sound barley and weighing not less than forty-five pounds to the bushel.

No. 4 Western Canada Barley shall include all damaged barley weighing less than 45 pounds to the bushel.

By Mr. Coote:

Q. Does it make provision for wild oats and weed seeds like your new definition?—A. No, I have read it just as it is stated in the Act.

Q. That is the lowest grade of barley?—A. No, we have feed barley and rejected barley. I believe that is set by the Grain Standards Board. There is no definition for feed and rejected.

By Mr. McMillan:

Q. What do you mean by "reasonably clean"?—A. That is largely left to the discretion of the Inspector.

By Mr. Steedsman:

Q. What is the idea of using the term "reasonably clean" rather than giving the percentage?—A. The reason for that is that the Inspection Department do not like to be tied down to say that there shall be one and one-half or two per cent; they like to have it so they can go a little over or under as they see fit, and I believe it is a fact to-day in connection with grades of other grain, wheat or oats that they have a great latitude, and they get that by using the words "reasonably clean".

By Mr. Coote:

Q. There is so much in the definition that I do not see why we should make it any worse?—A. If you have to go over all your grades in the Grain Act—

Q. I would like to ask the witness if there are any grades defined in the Grain Act which allow for three per cent of weed seeds in any grade that is defined in the Canada Grain Act?—A. I do not know just off hand.

Q. Would you care to give us any reason why we should place a definition in the Grain Act under which 3 per cent of weed seeds would be allowed in any grain?—A. I think the Committee were of opinion that even with that leeway there would probably be very little barley that would get into that grade.

Q. In wheat, for instance, we call that dockage. Why not call it dockage? Then the barley would be graded free with so much dockage?—A. That would be the way this would work out if you had barley with 3 per cent weed seeds, or say, No. 2 Barley, 3 per cent weed seeds, the terminal would have to clean out your seeds and the farmer would still get his high grade barley.

Q. My point is regardless of what the barley is graded, why should anybody that is buying barley have to take seeds? Why should you pay a man for barley when it is 3 per cent seeds?—A. The man that is buying barley will only pay for his clean barley.

Q. Not if your definition is adopted.

By Mr. Donnelly:

Q. These varieties of barley are only used as feed?—A. In the Canada Grain Act?

Q. No.—A. No, they will take care of malting barley—the barley that will be composed of 95 per cent 2-rowed barley.

Q. You do not include a certain number of seeds in that, do you?—A. No, there are no seeds in that.

Q. And the ones you include?—A. They would be only feed barleys.

By Mr. Coote:

Q. But black weed seeds are not feed at all; they are refuse; some of them are even poison; they are not fit to feed to anything. Why should a man be paid for this?—A. What are you going to do with this stuff that is grown and has this percentage of seeds?

[Mr. Folliott.]

Q. I would grade it as barley, but I would not allow those weed seeds to be counted as barley. It seems to me that if your definition is adopted they would have to be called dockage by the Inspector.—A. I do not think the elevators at the terminals have the proper facilities for cleaning barley to that extent.

Q. For instance, if farmers in Ontario want to buy our western barley, I do not think they should be compelled to take these weed seeds in the barley; they should never go to a farm at all. Those weed seeds should never get out of the terminal elevator.—A. Well, of course, as far as the percentage of seeds is concerned, as we have suggested, the price will take care of it. A man buying that barley should know there is a certain percentage of weed seeds and naturally he would base his price on that basis.

Q. Quite so, but another man who was delivering barley which is feed with no weed seeds knows that the price he is going to get has got to be based on the other.—A. I think if he had delivered barley without any weed seeds he would get a better price.

Q. Not if the other conditions were considered. I do not think we should encourage the growth of weed seeds.—A. What are you going to do with a man who unfortunately has got this class of grain?

Q. His sample would be graded that with 3 per cent dockage, and when it went to the terminal the dockage would have to be taken out?—A. I think, so far as the Committee is concerned, that probably would suit them.

Q. You think it should suit them?—A. I think that would probably suit them.

Q. I think it would be very poor practice for us to allow a definition of any grade to state that that grade contained 3 per cent of weed seeds.

By Mr. Ross (Moose Jaw):

Q. Are you shipping this class of barley in competition with other barleys that do carry weed seeds; is that the reason that that is in?—A. We are shipping this feed barley right along.

Q. Are you shipping it in competition with other barley which does not carry a high percentage of weed seeds?—A. Yes. One of our big competitors in barley is the United States barley and that may contain nearly anything.

By Mr. Donnelly:

Q. Is there any low grade barely without weed seeds?—A. I don't think so. There may be a certain amount, but the inspection department tell me it is due to the fact that it contains wild oats.

Q. How will you get your wild oats out of that?—A. Outside of the feed barley I do not think you will get them out. Eventually you may get facilities which will take them out, but I do not think you have them now.

By Mr. Ross (Moose Jaw):

Q. Is not the trouble on your out-turns, that you cannot get rid of them?—A. That is part of it.

Q. It is not in the grain coming in?—A. It is the out-turns. If you do not allow that grade you cannot ship barley with 3 per cent weed seeds. You will get all of this stuff, and you might as well throw it in the lake.

By Mr. Coote:

Q. We would be better off if we did, would we not?—A. If we can sell this to a man in Germany, for instance, who can use it and get some value from it for our farmers is that not an advantage. We are spending thousands and it will soon be millions of dollars to combat the weed seeds, and there are very

strict regulations in regard to the shipping of them.. Take the refuse screenings, which are the cleanings after the grain is cleaned, and you cannot market that in Canada, but we find a very good market for it in the United States. They are glad to get that stuff.

By Mr. Ross (Moose Jaw):

Q. Would you have to make provision for allowing the shipments of grain with so much dockage in it?—A. I do not think it matters much what you call it as long as you have a provision that it can be shipped with a certain amount of dockage.

By Mr. Coote:

Q. If one man raises barley which cannot be graded anything but feed, but which has practically no weed seeds, he has more feed value than barley with 3 per cent weed seeds in it. It would be much better to have that barley sold as feed barley than to have it go as 3 per cent; that is, if we decide to allow the certificate to cover barley with 3 per cent seed in it?—A. The barley would not go out with 3 per cent in it; the elevators would have to clean it down.

Q. Why?—A. Because they would have to ship out clean barley.

Q. Not under your definition. They could ship a car of feed barley to Ontario containing 3 per cent of seed, and I am not sure that that would not be a very good practice.—A. That is right, yes.

By Mr. Fansher (Last Mountain):

Q. What is considered as weed seed when speaking of barley? Wheat, rye, oats and so forth?—A. No, that would be classed as "other grains". It would be wild oats, and big weed, which are specifically mentioned. I might just say in connection with these grades that we had this matter up with the inspection department, and I notice here they make a note with regard to seed barley. It says "The percentage of dockage to be set to be left off until further inquiries are made as to the amount which can be properly cleaned with the facilities." That is the inspectors' suggestion. I believe with the present facilities it is quite impossible to clean this barley.

By Mr. Garland (Bow River):

Q. Then why not allow for a 3 per cent dockage in your description?

The WITNESS: What do you think of that, Mr. Newman?

Mr. NEWMAN: I would say that this matter was discussed at considerable length with the inspection people. In answer to Mr. Coote's question, which is very well taken, I would say that the reason why in the suggested wording of No. 3, Canada Western grade, we included a specific percentage of wild oats and so on, was that it was thought desirable to make that actually a little higher grade than the present 3 C.W., because the present 3 C.W., while not stated in the Act, in actual practice may contain a larger percentage of wild oats and other seeds than is specified in this revised wording. That question was discussed, and we fought over that for a long while, as to whether or not it would be wise to state definitely the percentage, or whether to leave that percentage out entirely, as Mr. Garland (Bow River) suggests, and simply put in the words "reasonably clean", reasonably free from other domestic grains. The inspection department is not desirous of having the percentage specified, as has been explained before.

By Mr. Coote:

Q. I think it would help to clarify the situation if the definitions of No. 4 C.W. and No. 3 could be read again.—A. (Reading):

No. 4 Canada Western Barley shall include damaged Barley, weighing not less than 42 pounds per measured bushel. It may contain 15 per cent wild oats or wild oats and seeds, or 10 per cent of other domestic grain; it shall not contain more than 3 per cent of seeds.

Mr. COOTE: My objection is this, that I might grow barley which was reasonably clean, but was damaged by frost or other conditions, and have no wild oats and no weed seeds. Is it reasonable to suppose that that barley is not worth more than another sample of similar barley which contained a large percentage of wild oats and a large quantity of weed seeds?

Mr. ROSS (Moose Jaw): Mr. Newman, in feed wheat there is no dockage?

Mr. NEWMAN: No.

Mr. ROSS (Moose Jaw): It goes up to a certain point and then turns into screenings?

Mr. NEWMAN: Yes.

Mr. ROSS (Moose Jaw): There is no definition in the Act as to how much dirt it can carry? You can carry 10 or 15 per cent and still have feed wheat?

Mr. NEWMAN: That is correct.

Mr. COOTE: May we have the definition of feed barley?

The WITNESS: (Reading):

Feed Barley shall include all barley excluded from the preceding grades in account of light weight or mixtures. It may contain 25 per cent of wild oats or wild oats and seeds or 20 per cent of other domestic grain; it shall not contain more than 5 per cent of seeds.

The reason we get such a good price for our wheat is that the standard is kept up; it is not feed wheat for which we get the good price, but the high grade wheat. We are interested in getting this type and grade for the two and six row barley. I think they would be willing to let the three and four feed barley stand as it is. We are not interested in that at all. We want a grade to take care of the two and six row barley. In wheat, the standard is high and we want a high standard for barley, so we can get the barley binned and stored in the terminals which will allow us to try and take care of the export market which there is for high grade barley. The Committee is not really interested in feed barley, but I would say this, that as far as the marketing pool for the barley is concerned, we have an awful lot of feed stuff to take care of. We do not want to do anything that would knock our markets for this feed stuff. I do not think you can get away from it entirely. You can put on all the regulations you like, but in western Manitoba there will be all kinds of grain grown with wild oats in it, and it must be disposed of some place. It may be bad business for the Dominion that the farmers grow this stuff, but they grow it, and we must take care of it. We are vitally interested, however, in getting a grade for two and six row barley.

By Mr. Coote:

Q. I cannot understand why this Committee should favour a very stiff grade for a good barley and make such a low standard for feed barley.—A. Our object in that was to give the farmers something to strive for. At the present time the grades of barley are outlined in the Canada Grain Act, and there is nothing for them to strive for. They grow a good two row barley, and what

[Mr. Folliott.]

happens to it? It goes down to Fort William and is all mixed up, and it does not give the farmer the opportunity of putting his barley in such shape that he can market it the best. We are striving to get a grade that will permit him to have it binned separately, and be able to take advantage of the markets which may develop.

Q. I quite understand that, but so far as I am concerned I certainly will not agree to the suggestion which you make with regard to feed barley.—A. We are willing to let the Canada Grain Act stand as it is.

Mr. BURNELL: Mr. Chairman and gentlemen: I just wanted to stress the importance of this especially in our province of Manitoba where we are growing now more barley than we are growing wheat on account of the severe epidemics of rust that have obtained in recent years. During this last summer our Manitoba government has set aside some ten thousand dollars for investigation into malt barley, and we have in Manitoba a Special Manitoba Barley Committee. Our Canadian wheat pool also has spent considerable money in investigating this subject, and we have at the present time obtained the release of Professor Harrison from the Manitoba Agricultural College for a while, and Professor Harrison and our Vice-president, Mr. Bredt, are now in Europe investigating markets in connection with our barley in Great Britain and on the Continent. As one of the Committee remarked, I do not see how there can be any exception taken to these grades, as to a good many special grades that will segregate malt barley. Our difficulty in the past, in getting attention on the part of farmers to the improvement in the matter of growing a better and cleaner barley, has been that we just practically had the one grade in which to try to better the class of barley, and it all went practically for feed. I would ask you to proceed with caution about those other grades. I wish we had one of our technical men here who is in charge of the operation of our terminals. As a farmer and as one who has helped to handle considerable grain for five years I think there are some great difficulties in the way if you try suddenly to do away with all the weeds in Western Canada by Act of Parliament. Our organization has always been trying to get the farmer to pay strict attention to the quality of this grain, and we are willing to do all in our power to eliminate this weed menace and also to get the farmer to grow the kind of grain that the market demands and the quality that will obtain, so that we can always have a premium from other countries on our grain. In our country elevators in Manitoba, of which we have one hundred and forty-three at the present time, we have equipped all our new elevators that have been built during the last four years with the best type of cleaner that we can get, but there are some great problems in the cleaning of barley. We have a rotary Emmerson cleaner, and during the last year we are experimenting in some of our elevators in districts where they are growing mostly Trebi barley—we are experimenting with a new rowell in these cleaners in order to enable us to take the wild oats out of Trebi barley. Trebi, I might say, as you noticed in the picture furnished by Dr. Newman, has a longer kernel than the other barley. They have considerable difficulty in separating Trebi and Durum wheats and also Trebi and wild oats. We are doing all we can as a farmers' organization to get the farmers to pay attention to quality, and we are doing all we can to clean up this grain, but we have some considerable difficulty when we come to the terminals. Most of our terminals were built some years ago. We are limited with regard to space, and you cannot change those terminals over night or build the required space suddenly. So they have some difficulty there in the cleaning of this grain. We are doing all we can by way of education of the farmer. We propose doing with barley as we have been doing with wheat—encouraging the growing of different things at every point in the province to find out the varieties which will do best in each district.

[Mr. Burnell.]

In considering anything in connection with our grain, I would ask the Committee to kindly remember the large amount of money involved if we can in any of these grains just increase the price of them a few cents per bushel. If we could increase the price of all our grain by five cents a bushel in Western Canada we would put considerably over \$50,000,000 into circulation in the three prairie provinces. I simply wish to say again that as a pool we are trying to do all we can on our side, and we are simply asking you to make this Act in accordance with what we find we need to attain these ends.

Mr. GARLAND (Bow River): There is no doubt now that Manitoba has turned its attention so heavily to barley growing that they have to consider the problem of street barley. It will be, I gather, at the outset difficult to find elevatormen sufficiently acquainted with the characteristics of the barley, the two-row barley as distinguished from the six-row barley. They will find it difficult to tell one from the other. I presume, at least, you will be dealing only in quantities at Fort William?

Mr. BURNELL: We have been handling street barley for some considerable time.

Mr. GARLAND (Bow River): Under the new definitions, when you are separating the two-row barley from the six-row barley, the average elevator agent buying that on the street will not be able to tell the difference between the two-row barley and the six-row barley.

Mr. BURNELL: I do not know whether the Committee went into that.

Mr. GARLAND (Bow River): He will be mixing the two-row barley and the six-row barley in a bin.

Mr. LOVIE: There would be no incentive to keep them separate.

Mr. BURNELL: I would sooner that some of the technical men would answer that. I am not a grain grower.

Mr. GARLAND (Bow River): How much barley is sold on street, roughly; what percentage?

Mr. BURNELL: Usually I think about the same percentage as wheat—about five per cent, roughly speaking.

Mr. COOTE: I would like to ask Mr. Burnell whether he thinks it is really necessary for us to allow in a definition of any of these barleys for a certain percentage of weed seed?

Mr. BURNELL: I think there is really a mechanical difficulty—the difficulty in cleaning the grain and getting it out of the terminals without those weed seeds in it. You have to remember that these are the lower grades with which you are dealing. We have the other grades of barley which are clean and true to type.

Mr. BEAUBIEN: Suppose you change the definition in regard to three and four as Mr. Coote has suggested in regard to weed seeds, are you not going to create a situation in Manitoba that is going to be impossible.

Mr. BURNELL: It looks to me—I have not heard that part of it discussed before—but it looks to me, just looking at it suddenly, that you are creating a situation that will be impossible because there are millions of bushels of grain grown that contain wild oats and I cannot see how the terminals can clean them all out under present day conditions.

Mr. BEAUBIEN: I am making a statement that in the Red River district most of the farmers are using barley as a crop in order to clean their land of the weed menace, and if you are going to summer fallow your land all the time your revenue is going to be small, so they use barley to clean their land. At the same time, there will be a lot of weeds.

Mr. BURNELL: Of course, summer fallowing will not eliminate wild oats all the time.

[Mr. Burnell.]

Mr. C. D. McFarland, called.

The WITNESS: I do not know what to say, because the ground has been covered by the other speakers. As a Company, of course, we are interested in the higher grades, mostly the grades which will now be 1, 2 and 3 extra. We have been very much in favour, of course, of changing all the grades because we believe that it will bring us a better class of barley for our malting purposes. As it is now, it is not difficult for us to sell, but in some places when it goes into the terminals at Fort William, we get this mixed two-row and six-row, and anybody who is a maltster knows it is almost impossible to make good when the two are mixed.

By Mr. Lovie (Not a member of the Committee):

Q. Which would you sooner have, the two or the six for malting?—A. Well, we can use a certain quantity of both. We use a larger quantity of the six-row barley because of the demand of our trade. We have a certain trade, and a larger proportion demands the six-row.

Q. It is really more valuable then?—A. Yes. Well, I would not say it is more valuable, but we can take larger quantities. Still there has not been very much two-row that has been offered for sale—that is, pure two-row passing from Winnipeg that has not been taken care of.

Trebi is another barely which is in the same manner—when I say a six-row I mean O.A.C. 21. We have been working on the definitions of barley throughout Canada for the purpose of growing a better barley for a good many years, and we have separated the varieties. We can take several varieties and have the varieties separate; and we have been working along those lines for years, and, in fact, we are spending a lot of money. We selected a fairly good O.A.C. 21 from Manitoba. We bought it at Fort William and sent it back to Calgary for distribution in the province of Alberta where the seed was rather scarce this year. We are doing that work at a big loss, and the same with the seed barley which we have been distributing and assisting in every way. Our great point is variety, and we believe that these grades will help a great deal. We anticipate that the barley which we are now getting will come under the three extras, and we hope to get a good deal of number 1 and 2, a large premium will be paid.

I do not know if there is anything more that I can say, because the whole thing has been covered by the other speakers—all the points which I think of have already been pointed out; but it seems to me that the Committee seems to be almost unanimously in agreement that it would be a good idea to put through these better grades in which we are more vitally interested than the feed grades. They do not interest us at all.

By Mr. Lovie (Not a member of the Committee):

Q. Would it not be wise to mention the fact that barley is sometimes turned down on account of being threshed too closely?—A. Of course, we have been trying to spread that throughout the country in literature. We have been issuing pamphlets by the thousands and spreading them over the country. That is one thing we are stressing, regarding the growing of better barley for malting purposes. We have a copy of that here. These are the pamphlets we have been spreading all over. We have to make the reading different for the different provinces—making it apply to some of the conditions—and also in the province of Quebec, we print it in the French language, and we stress that one point regarding threshing too closely. Of course, it destroys the barley for malting purposes.

[Mr. McFarland.]

Dr. GRISDALE: Mr. Chairman, here is a suggested amendment or change that would be called Number 3, C. W. Barley:

Number 3 C. W. Barley shall be barley composed of any variety or type or combination of varieties or types, shall be reasonably clean and reasonably free from all other grain, may include weather stained and slightly shrunken but sound barley and weighing not less than 45 pounds to the bushel.

Mr. NEWMAN: That is essentially the same as it now stands in the Act. The wording is slightly different, but the substance is exactly the same. It says:

Number 3 Canada Western Barley shall be reasonably clean and reasonably free from all other grain; shall include weather stained and slightly shrunken but sound barley and weighing not less than 45 pounds to the bushel.

We suggest a reference to the mixture of barley types in view of the fact that in the preceding grades we specified that there must not be any mixture of types.

The CHAIRMAN: What about feed?

Mr. NEWMAN: As it stands in the Act No. 4. Canadian Western shall include all damaged barley weighing less than 45 pounds to the bushel. If we exclude any reference to weed seeds contained there will be no necessity for making any change.

Mr. FOLIOTT: I think it would be advisable to have some difference between three and four as far as weight is concerned.

The CHAIRMAN: Mr. Burnell, you are making representations to the government about your suggested changes and your amendments to the Grain Act, are you not?

Mr. BURNELL: I do not know whether we have to make them to this Committee or to the government. We saw four of the Ministers—Mr. Malcolm, and three other Ministers, and we discussed all the problems we have here, and they suggested that we tell the Agriculture Committee what we wanted. I do not know just what shape that is in.

The CHAIRMAN: If you are not making them to the government—if you are making them to the Committee you will leave your suggestions with the Committee.

Dr. GRISDALE: Is the Committee prepared to accept this amended grade 3 and the amended feed as it is?

Mr. GARLAND (Bow River): I have no objection except as to the looseness of the phraseology "reasonably clean", and so on.

Dr. GRISDALE: That is in the Feed?

Mr. GARLAND (Bow River): Yes.

Mr. BEAUBIEN: Mr. Newman, suppose you eliminated in the lower grades the percentage of weed seeds; if I come to the elevator with that percentage of weed seeds, my barley would be graded as screenings, would it not, if I cannot come up to the standard of feed barley? So you eliminate the weed proposition.

Dr. GRISDALE: In the case of this 3 C.W. it does not mention weeds at all; it says, "reasonably free from other grain".

Mr. COOTE: Suppose it had five per cent; would it not be graded 3 C.W., 5 per cent dockage? Is there any objection to that, adopting the suggestion as it is?

Mr. NEWMAN: I do not think so.

Mr. COOTE: We do not need to specify anything about dockage; that would follow as a matter of course.

[Mr. McFarland.]

Mr. NEWMAN: Grade 4 reads in the Act:

No. 4 Canada Western barley shall include all damaged barley weighing less than 45 pounds to the bushel.

Mr. COOTE: Yes, but the Committee suggested a change.

Mr. NEWMAN: It had suggested a change. It would include a reference to weed seed, and we would be quite willing to eliminate that from grade 4 in the same manner as in grade 3, so that there would be no perceptive change in the Act.

Mr. COOTE: The pool representatives suggested the change of weight per bushel.

Mr. NEWMAN: In number 3 the minimum is 45 pounds; in number 4, it is suggested that the minimum be 42 pounds.

Mr. COOTE: Are the Committee amending their report so that number 4 will change the weight to 42 pounds to the bushel, and will eliminate all reference to weed seeds.

Mr. NEWMAN: That is what we have taken—

Mr. COOTE: It would be the same as the present definition, excepting the weight?

Mr. NEWMAN: Excepting the weight. We think it better to make a little difference in the weight between 3 and 4.

Mr. COOTE: As regards feed?

Mr. NEWMAN: Feed is not in the old Act; but it has been suggested that there be a grade: "feed barley shall include all barleys excluded from the preceding grades on account of light weight or mixtures. It may contain 25 per cent of wild oats or wild oats and seeds or 20 per cent of other domestic grain; it shall not contain more than 5 per cent of seeds." Feed barley shall include all barley excluded from the preceding grades.

Mr. BURNELL: Then we put all barley with wild oats into feed.

Mr. McMILLAN: My understanding is that you have regulations to deal with that seed even in seed grain—even in your higher grain as well as in your feed. What is the object of excluding any reference to weed seed in your lower grade?

Mr. NEWMAN: The objection has been raised that it is inadvisable to recognize or permit by law the inclusion of a specific percentage of weed seeds in the grade.

Mr. COOTE: Mr. Newman, would not this be the case that feed barley going forward with 20 per cent of wild oats would be graded as feed barley, dockage 20 per cent on account of wild oats?

Mr. NEWMAN: Yes.

Mr. FOLLIOTT: At the present time there is considerable barley which goes into graded barley and wild oats, or it might be barley, Durum and wild oats, or barley wheat and wild oats.

Mr. COOTE: It is practically a rejected grade?

Mr. FOLLIOTT: Yes.

Mr. COOTE: It will be for separation in the elevator?

Mr. FOLLIOTT: They are not usually separated; they are shipped out as sample shipments.

Witness retired.

The Committee adjourned until 4.00 p.m. Thursday, March 14, 1929.

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SESSION 1929

HOUSE OF COMMONS

Government
Publications
1929

MINUTES OF PROCEEDINGS AND EVIDENCE

OF THE

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

1929
THE DAIRY INDUSTRY IN CANADA

Address by

Dr. J. O. Ruddick, Dairy Commissioner

THURSDAY, MARCH 21, 1929

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1929

MINUTES OF EVIDENCE

HOUSE OF COMMONS,

MARCH, 21, 1929.

The Select Standing Committee on Agriculture and Colonization met at 11 o'clock a.m., the Chairman, Mr. W. F. Kay, presiding.

The CHAIRMAN: Gentlemen, we have a change of program for this morning. We have been learning a lot about wheat and will now learn something about dairying. I might say to our friends from the west that the dairying industry in Ontario and Quebec is as important to us as the wheat situation in the prairie provinces. We have with us Dr. Ruddick, the Dairy Commissioner, whom I will now ask to address you.

Dr. J. A. RUDDICK called.

The WITNESS: Mr. Chairman and gentlemen, I think it is some thirty years since I first appeared before this Committee to give evidence on the dairying industry of this country, and it might have been interesting and perhaps useful to have reviewed the progress of dairying during that period. But I think, with our limited time, you will be more interested in the present status of the industry and the outlook for the future, because, after all, that is what we have to consider. It may be necessary to make some reference to the past to get the proper background for the present situation, so I will begin with some reference to the production of dairy produce in Canada.

To start with, I want to make this general statement, because I think a great many people are astray in their thinking on this point—that you cannot judge the progress of the dairy industry in Canada by the production of any particular product, because there are so many channels in this country for the disposal of milk, and it is so easy to divert from one to another, so that unless you take the situation as a whole, you are very apt to be misled. Nor can you judge of the progress of the industry by the exports of dairy products, because after all we are only to-day exporting between twelve and thirteen per cent of our total production of dairy produce in this country, and right there I would like to tell you what the total production of the dairy industry means to Canada. The latest figures that we have—and you will bear in mind that they are partly estimated, but I carefully worked them out and I think these estimates are reliable, because they are proven to be when we have the figures of the decennial census years—show an estimate in 1927 as the total value of the dairy industry in Canada of \$276,000,000. That includes all the milk produced in the country in any shape or form, no matter whether it is consumed on the farm or elsewhere or manufactured. Two hundred and seventy-six million dollars—just about equal to the total mineral production of Canada.

By Mr. Senn:

Q. Does that mean the price to the farmers?—A. In the case of products like butter and cheese, it means the selling price.

Q. The retail price?—A. No, the wholesale price. We do not make any calculation of the retail price.

Having said that much on the production, I would like to give you some idea of how this production is distributed. The latest figures are for 1927. We have not been able to get all the returns for 1928 as yet. In 1927 the figure

for the total milk production was 14,112,064,240 pounds. I do not know how much 14,000,000,000 is, but we have to use some figure for comparative purposes. Of that quantity, over one-third was consumed as milk, milk for direct consumption or otherwise used for feeding calves and that sort of thing; over one-third, as a matter of fact, nearly 5,000,000,000 pounds.

Then the next large item is the manufacture of creamery butter, which utilized another third, or very nearly a third.

Next comes the manufacture of dairy butter. We are still making a considerable quantity of dairy butter in this country, somewhere in the neighbourhood of 75,000,000 pounds per year. Very little of that enters into commerce; it is mostly consumed on the farms where it is made or passes directly from the producer to the consumer. There is not much dairy butter on the market at the present time.

By Mr. Sinclair (Wellington North):

Q. How is that divided by provinces?—A. I can not give you that. I can not give you that. We have no means of calculating it that way. I can and will give you the production of creamery butter by provinces.

By Mr. Anderson (Halton):

Q. How do you compute that 14,000,000,000 pounds of milk?—A. It is a long story, and we have different ways of getting at it. We know how much is used for butter and cheese; we know how much milk is produced, and we know how much it takes to make a pound of butter or cheese. We have a general idea of the average per capita consumption of milk; we know how many cows there are in the country, and we know the average production. There are a great many different angles to the calculation, and we have also as a basis of that calculation the decennial census figures available once every ten years.

Q. Then you make an allowance for what is used on the farms?—A. It is all taken into account.

By Mr. Senn:

Q. Nursing cows too?—A. Do not tie me down too tightly. There is a certain amount of estimation in this, but we take into account all the milk which is produced and average it up. I am bound to say that this sort of calculation has been going on for a good many years. We have found when we secured the actual figures of the census years we were very close to it in our calculations, so I think you can depend on these figures very well. I am not saying they are accurate to a hundred or a thousand pounds, but I am giving you a general idea of the situation by stating these figures.

There is one thing I would like to point out. As I said, the production of any particular product is not the important thing. It is the total production of milk which really matters, and we find as between 1924 and 1927 there was an increase of 2,000,000,000 pounds in the total production of milk. That would be the equivalent of 187,000,000 pounds of cheese, or something like 87,000,000 pounds of butter if it had all been converted into either of those products. It is easier to estimate it in pounds of butter than in pounds of milk, so I put it that way. That increase was between 1924 and 1927, and compares the figures for that period. Now, for the production of cheese and butter by provinces; we will consider cheese first, if you like. You know we have been making cheese in this country since 1864, that is, making cheese in factories. There was a considerable quantity of cheese—something like six or seven million pounds—made before factories were established, that is, made on the farms, but when factories came into existence the making of cheese on the farms practically ceased, and the production now is so small that it does not figure in the total quantity.

[Dr. J. O. Ruddick.]

We reached the maximum production of cheese in this country about 1904. The total production then was about 250,000,000 pounds per year. After that date the production of cheese gradually declined until in 1927 our total production was 138,056,000 pounds. I have heard people deplore this decline in our cheese industry, but I must say that I cannot see it that way. I think it was a most fortunate thing that producers of milk found other and more profitable channels for the disposal of their milk rather than to continue making cheese, because if we had continued to make as much cheese as we did in those years, and New Zealand came on as she has, and would have come on anyway, the market would have been oversupplied long ago. It is not true to say that New Zealand cheese has displaced Canadian cheese on the British market. New Zealand cheese never displaced a pound of Canadian cheese, and never will, so long as Canadian cheese maintains the quality it now has. I will say something about that later on. There was no displacement, and it was a fortunate thing that the New Zealand supply increase has been balanced by the Canadian decrease, so we have not much more cheese on the market than we had before New Zealand came into the picture. New Zealand supplies more cheese to the world than Canada. As a matter of fact, Canada stands third in that regard. First place belongs to Holland, that little country, the total area of which is about equal to that portion of Ontario south of the line from Hamilton to Southampton, and that small country produces the largest amount of cheese in the world, from about one-third less cows than Canada has.

By Mr. Sinclair (Wellington North):

Q. Does our cheese bring a better price?—A. Yes.

Q. Who taught the New Zealanders to make cheese?—A. Don't ask me that. The New Zealand cheese is made on the Canadian system. The first Canadian who went over there was a man by the name of McKeown, who was in the service of the dairy branch here. He went over in 1893 and remained in the public service a year or two and then went into business for himself and is now one of the outstanding financial men in that country.

By Mr. Senn:

Q. Do your figures include cream cheese and the cheese made from skimmed milk?—A. There is very little of that. These figures are for the whole milk cheese.

By Mr. Sinclair (Wellington North):

Q. Is it not true that it was really a Canadian who taught the New Zealanders to make cheese?—A. I don't know; they made cheese before any Canadian went there. I think the Canadian influence has been rather important on New Zealand cheese making, if you want to leave it at that. When it comes to my own part in that, I always feel that my patriotism rather struggles with my private achievements in looking back on the matter, because it is undoubtedly a fact that I did have something to do with the organization of the dairy industry in New Zealand some thirty years ago, and it was after that that they began to make very remarkable progress in the production of cheese and butter. It would be nicer for me to think that all my energies have been devoted to the production of Canadian things.

Turning to the creamery butter analysis, the history of the production of creamery butter is quite a different story from that of cheese. In 1900 we made only 36,000,000 pounds of creamery butter in all the provinces. The western provinces at that time made a little over 2,000,000 pounds, that is, Manitoba, Saskatchewan and Alberta. The quantity increased year by year for practically every year down to 1926, when the total production was 177,000,-

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000 pounds, and in that year Manitoba, Saskatchewan and Alberta produced 51,960,000 pounds, so that the production of creamery butter has made steady progress, until the last two or three years, when there was not much increase. In fact, in 1927 there were a few hundred thousand pounds less than in 1926.

I want to say a word or two about the decline of the production of butter in these western provinces. In 1926 the total production in the three prairie provinces was 51,960,232 pounds; in 1928, according to the figures which have been given to date, the total production was 39,417,663 pounds, a difference of 12,542,569 pounds.

Now, there is a reason for that decline, and I do not think there is any doubt but that the chief reason is the pre-occupation of the farmers in that part of the country with the wheat crops in those years, and probably to some extent by feed and climatic conditions. All the other provinces in Canada have made increases during that period sufficient to make up for this deficit in the west and to keep the total production about level, but we have not had any increase in the last two years. There is this to be said, that during the last four months there has been quite a remarkable increase in the production of butter in the prairie provinces over the same period last year. In November, there was an increase in Saskatchewan of 73 per cent over November of 1927; in December there was an increase of 133 per cent; in January, 130 per cent. Now, the total volume of increase is not large because that is the season when the production is at its lowest, but it shows there is a revival. I recently attended some of the dairy conventions in the west, and it is safe to say there will be a considerable increase in dairy products this present season. These increases in these months that I have mentioned are perhaps due partly to good weather conditions, but partly to the fact that in some areas the wheat crop of 1928 was rather disappointing and they have a very large supply of suitable low-grade wheat for feed. A great deal of it is being fed at the present time. That is the situation so far as I have been able to gather in the west at the present time.

We will have to pass on now, and I want to say something about the progress in quality, because that is a very important consideration. I would say that the past five or six years' record has never been previously equalled in this country, and I have been associated with the dairy industry in Canada for fifty years. I have been in the public service of one kind and another for forty years, and I am in a position to make comparisons and know what has been done in the past, and I will say that we have made more progress in the quality of our butter and cheese in the last five or six years than was ever made in any similar period in the history of the industry. Previous to 1923, when the grading system was applied to the export of butter and cheese—practically to all cheese and the great bulk of butter—there was no actual record as to what progress was being made, but since that year we have an accurate record of the quality of the butter and cheese produced, and I can put it this way as briefly as any other by saying that in 1923, 78 per cent was first and second grade cheese—special and first grade cheese. It was practically all first grade; there was a very little special which was included in No. 1. In 1927 there was 87.4 per cent of special and first grade; in 1928, there was 93.1 per cent of special and first grade. That was an increase of 5 per cent in that one year, probably helped a little by the favourable weather conditions, but there were other factors which were responsible for the most of it. That is a remarkable record, and any one who knows anything about the manufacture of cheese or butter will know that is a remarkable record in the past year, and it is having a very important effect on the outlook for Canadian cheese in the world's markets.

[Dr. J. O. Ruddick.]

By Mr. Millar:

Q. No change in the standard?—A. Not at all. If anything, the grade has been stiffened. You will bear in mind that in 1923 we started with a staff of graders who had no previous experience. We had no body of men to draw upon who had any actual experience in grading, and they had to go carefully. There is no doubt that the grade has been stiffened, both in butter and cheese, during this year, because they have learned by experience. You will know that in the examination of cheese there enters largely the matter of judgment. There is the flavour and the texture, and by experience they have come to detect more rapidly any unsound quality of cheese. Cheese is now put in the second grade which, in the first instance, would have been put in the first grade, for that reason alone. So that the grade is stiffer now than it was in the first year, and you can add that condition if you like. I do not know how much you should add, but you may add something.

When I said that the percentage of special and first grade the first year was about 80 per cent, you must remember that there were districts where the percentage went as high as 97. The whole of western and central Ontario last year made a record of over 97 per cent of first and second grade cheese. That is pretty good. I do not mean to say that if they were all first grade it would be perfection, because some of the cheese just got into the first grade by a very narrow margin, so there is room for considerable further improvement. There are a number of factories where they made 100 per cent first grade cheese. I know of one instructor not far from here in eastern Ontario who has a group of 25 factories under his charge who told the makers last spring that he would present a silver cup to every man who made over 97 per cent first grade cheese, and he had to present 19 cups. He certainly did not anticipate that. I think that question is worth dwelling on for a moment. As I said before, previous to 1923 there was no record of the quality of our butter and cheese, no publicity; there was nothing to base it on. Now the quality of the butter and the cheese turned out by every factory is open and public property for any one who wants information, and there has grown up a spirit of rivalry between the districts, between the factories, between the costs, between the inspectors of the different groups, and the cheese makers have organized themselves for the purpose of helping this work along. That publicity has made all the difference in the world. In the olden days very often the No. 2 quality was paid for at the No. 1 price. If the market was favourable you could not convince the cheese maker that he was not making a first-class cheese, because he would say to you, "I am getting the top price; what is the matter with that?"

Mr. Brown (Lisgar) having taken the chair.

The WITNESS (Continuing): Now the price is according to the grade in which the cheese is placed, and that has made all the difference in the world in encouraging the interest of the milk producers, the factory operators and the cheese makers, and has encouraged them to make improvements all along the line. I think we are just beginning to see the advantage of this publicity which is being given to the question of quality.

By Mr. Steedsman:

Q. Do you issue certificates to the makers?—A. We issue certificates for the cheese and butter grades, and these are now being used as commercial documents. Cheese is bought by cable on the strength of the certificates.

Q. They now have to conform to certain standards of cheese in order to obtain the certificate?—A. That is a provincial matter; we do not have anything to do with that.

[Dr. J. O. Ruddick.]

By Mr. McMillan:

Q. You say that there is a much larger amount of cheese consumed in Canada than formerly?—A. Yes; there has been a very considerable increase in the per capita consumption of cheese in this country. This is due, as much as anything else, to the package cheese, and while we are on that point I will say that there has been a tremendous increase in the consumption of butter in this country, and that is due to the improved quality of the butter. Our requirements in 1928 for home consumption exceeded the requirements in 1924 by the equivalent of 148,000,000 pounds of cheese, or, if you like to put it into butter, about 70,000,000 pounds. That includes the increased consumption of milk and ice cream, and that explains why our exports have fallen off, because we have eaten so much of the produce ourselves. It is thought that Canadians consume more butter per capita than any other people in the world; it is figured at 28 pounds per capita. Our consumption of cheese is not as high as many other countries; it is a little under 4 pounds per capita. But it is increasing. And, of course, that difference between the per capita consumption of cheese and the per capita consumption of butter explains why our exports of butter vary so from year to year. Where the per capita consumption is 28 pounds, as against 4 pounds, it will be easy to see how it affects the situation.

By Mr. Lucas:

Q. Dr. Ruddick, can you tell us what percentage of that package cheese is going on the market now?—A. No, I cannot tell you the percentage. There is a great deal of it exported.

Q. Is that cheddar cheese?—A. Yes, just the ordinary cheese, but usually cheese of good quality. They want flavour, and they buy the best cheese.

Q. That 90 per cent you spoke of would include this package cheese?—A. They do not come into those statistics at all. These statistics are based on the cheddar cheese which is made. There has been a considerable export of that process cheese to the United States. I know one firm that has been exporting over a million pounds a month right into the principal cheese-making districts in the United States. There is not as much exported to the United Kingdom as there was for a few years, because they are now putting up this package cheese in the Old Country. They get this cheese from New Zealand, Holland, Italy, and from various countries that export cheddar cheese, and they blend the whole thing together. They seem to think that they are in a position to handle it better there than we can in this country, and some of the firms in this country have gone over there and established their own factories for processing.

Just a word or two about the quality. It was my privilege to visit the Old Country last year, and I had meetings with the produce exchanges in London, Liverpool, Manchester, Glasgow and Bristol. I was very much impressed with the lack of complaint with regard to the quality of our cheese. I do not think Canadian cheese ever stood so high in the market as it is at the present time, and the grading system has gradually improved the good will towards Canadian cheese. They buy on certificate, and they seem to be very well satisfied. For example, one of the largest importers told me last summer that they did not have to look at the cheese at all. He said they buy on the certificate. And, considering that those certificates have only been in use for a few years it seems to me that that is an excellent recommendation.

By Hon. Mr. Motherwell:

Q. How many years, Doctor?—A. Since 1923.

Q. How many years did it take to work up that certificate?—A. About three years altogether to accept it.

[Dr. J. O. Ruddick.]

Perhaps, the best proof, however, of the quality of Canadian cheese is this, that the premium which Canadian cheese receives over all other cheese of its class has been increased very materially, and last year it averaged one and one-half cents per pound over that of our chief competitor. I have copies of letters here from importers in the Old Country, written during the last two months. Canadian cheese and New Zealand cheese are both at the top of their class, and one importer wrote telling me that the difference in favour of our Canadian cheese was three cents a pound. He wrote again, a week later, and said that the best Canadian cheese is selling to-day at a premium of five cents a pound. That requires qualification, because that is last year's matured Canadian selling against new cheese coming from New Zealand. But there never has been so much of a difference between the quality of Canadian cheese and other cheese than there is at the present time.

There is another reason for it, and that is an important thing for the outlook for dairying in this country, because the price of cheese has a great deal to do with the fixing of the general level of price of other products in this country. It is our big export, and the price of milk, the price that you pay in this city, the price of milk that you pay in any city in Canada, is affected to a very large extent by the average price of cheese. It is a basic price for the dairy products in this country.

Any of you who have visited the Old Country know that a few years ago it was rather difficult to get a good glass of milk, especially in London. The milk was all of poor quality. The methods of handling it were old fashioned and out of date, and they had not kept up to the rest of the world in that respect. Within the last three or four years, however,—as a matter of fact, the movement started at the World's Dairy Congress in the United States in 1923, when they sent over a considerable delegation to look into this very thing—there has been a remarkable improvement in the methods of handling milk in the Old Country, and to-day you can get good milk in London. You can get it in the other centres too, and the distribution plants in London, under the United Dairies, and other express dairies, is as good as you will find anywhere. That has resulted in an enormous increase in the consumption of milk in the Old Country. The consumption was very light before. This milk is being drawn from the cheese making districts in England and Scotland. They are shipping from Ayrshire, Scotland, glass lined tank cars every day. The manufacturer of cheddar cheese in the Old Country is diminishing very rapidly, and they seem to think that in a short time they will not be making any cheddar cheese. They have been making about one hundred million pounds a year, and that cheese made in the Old Country is the standard for the type of cheese that we make in this country. Usually the best English and Scotch cheddars have been selling for three cents a pound above the best Canadian. It has been in a class by itself. But take the best of our cheddar cheese, and it is just as good as any English or Scotch. And, I have no doubt, a good deal of our very best cheese is sold for English and Scotch. That was the demand that was being supplied by these prices that I gave you just now. As I say, that cheese is disappearing from the market. Our best cheese should be able to supply that demand. There is nothing to equal it coming in to the British market to-day.

I do not want to say anything derogatory about New Zealand cheese, but it lacks a certain quality which our cheese possesses. They have never succeeded in getting that fine cheddar flavour that is acquired in the best type of English cheese. I studied that situation when I was over there, and I could not find any New Zealand cheese that had that full cheddar quality; that is, it has a kind of looseness of texture, which is one of the things that is giving them a great deal of concern at the present time. Their research workers are busy on that very matter. I had a New Zealander in my office a short time ago, and he was very much concerned over that very thing. He asked me if

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I could suggest some way in which they could get over it. That is not saying, however, that New Zealand cheese is not of good quality. It is different, that is all. But there is demand in the Old Country for a type of cheese which is full in flavour, firm and meaty in texture, and that demand comes from people to whom quality is of more importance than price. They are the people who have been paying the three cents more for English and Scotch cheese. We have the opportunity now to secure that market, and we are in a much better position to do that than anybody.

The price of cheese in Canada last year was three cents a pound above the previous year. It was very much higher relatively than the price of butter, and the reason for it was partly because of the decrease in production in 1927, which made a little shortage. The price of cheese averaged nearly 21 cents a pound for the 1928 crop. That is the outlook for Canadian cheese.

Now, whatever affects the cheese industry affects the other branches of industry in this country. I believe this, that the fact that the cheese producers got one and one-half cents a pound last year as a premium, which amounted to about two million dollars, can be multiplied several times, because that price affected the price of all other products. It affected the price not only of our exports but of everything produced in this country. And I think it is a safe thing to say that because of that superiority of quality in cheese the Canadian producers got at least ten million dollars more than they would have received. That seems like a lot of money, but I think it is a conservative statement, and I would not make it if I did not thoroughly believe it. So that anything that helps the cheese industry helps other industries in this country.

Just a word about butter prices. The price of butter in Canada during the last two or three years, because we have no surplus for export, has been anywhere from one cent a pound to fourteen cents a pound above the export value. In one period in 1927 it went up to fourteen cents a pound above the export value. At the present time, New Zealand butter is being imported into Canada, from London, on which the full duty of three cents a pound is being paid. The reason for that is that there is no time to bring butter from New Zealand before our new season's butter is in supply, but it shows that the market here is high enough to permit of that being done. So that our producers, while they have not been manufacturing it, have been getting more, and all the butter produced in Canada has brought a higher price because of that condition. That is about all one can say about the price of butter at the present time. We have been above, and will be above so long as we have any surplus for export, the world's market, which fixes the price for cheese, because we have a surplus for export in that case.

By Mr. McMillan:

Q. Can you tell me what it costs to ship butter from New Zealand to the London market? Is it one and one-quarter cents, or one and one-half cents?—A. I have that here somewhere. It is more than that. I think it is so much a box, but I have just forgotten how it works out. I cannot remember exactly, Mr. McMillan.

Q. I think it is one and one-half cents.—A. No, it is more than that. Our own freight rate is \$1.40 a hundred weight.

Q. Is that from Montreal to London?—A. Yes. Butter 4 shillings per 56-pound box. That is about a dollar. It works out at \$1.74 per hundred weight. That is the present rate. The cheese rate is \$1.81 per hundred weight. It is higher than the butter rate.

[Dr. J. O. Ruddick.]

By Mr. Senn:

Q. What is the rate from New Zealand to Canada, Montreal or Halifax?
—A. From Auckland to Vancouver, the rate is one penny per pound gross weight, or two cents per pound gross. That includes the weight of the package and everything. That is for cheese. Butter is 4/-6d. for 56-pound boxes.

By Mr. McMillan:

Q. So that it costs six cents more to bring it to Vancouver than it does to bring it to London?—A. Yes.

Q. You said four shillings to bring it to London?—A. Yes.

Q. And it costs 4/-6d. to bring it to Vancouver?—A. That is right. The rate from Australia to Vancouver is five shillings for a 56-pound box.

As to our exports. I do not know when the export of butter began. There was, however, a considerable export of butter at Confederation, and in 1872, we exported nineteen million pounds of butter. That was dairy butter collected during the summer months, stored up and shipped over there without refrigeration during the cold months of the year. I do not know anything about the quality. I would not like to bank much on the quality of that butter handled under those conditions. I remember a discussion at a previous meeting here, and one of the members pointed out that this butter very often won first prize. Yes, of course, but the standards to-day are entirely different. It competed with the same kind of butter, and it was a very inferior article.

When the creamery butter came in, in the 80's, the demand for dairy butter fell off very rapidly, and we ceased to export any quantity. The next trouble was the lack of refrigeration, and it was not until 1896 that refrigeration was available on boats sailing down the St. Lawrence. When refrigeration was installed on these vessels, the quantity of butter exported increased quite rapidly up to about 1903 when we reached 53 million pounds of a surplus for export. Then, at that time the population began to increase rapidly and we consumed more butter, although we continued to increase the production all the time. The exports fell off, and in 1912, 1913 and 1914 we had deficits, and had to import considerable quantities. Then the war came along. The consumption did not increase, but production continued and we had a surplus again. Now, we have had this great increase in consumption which has taken place in the last few years, and we are back in the same position in connection with the export of butter from this country. We have continued to increase our production all the time.

The exports of cheese have been more regular. We have been exporting cheese ever since Confederation. I have figures here showing exports in 1868, and our exports have continued to increase gradually up to 1904. It has fallen off since because of the reduced production since then. But we are still exporting cheese and butter to a great many different countries, altogether some twenty-five different countries. Most of it is in small quantities. We are exporting some to the Orient, and that trade is growing. We are also exporting to the West Indies, and that trade is growing. They have excellent facilities now, and an excellent service from Halifax and St. John, and even from Montreal, in the summer, to the West Indies. The preferential treatment has had some effect already in creating a demand for butter. At one time, it was almost impossible to ship to the Orient or to the West Indies, but now that refrigeration is available they can take butter in ordinary solids, or even in prints. I had a letter from a niece of mine, who is a missionary in North China, only a few weeks ago, and she told me about the butter they get. She spoke about the butter they got from Australia, but she said the best they got came from Edmonton, Alberta, in one pound prints. They get that, of course, only in the cold weather.

[Dr. J. O. Ruddick.]

There are some rather odd things about our imports of butter and cheese. We have imported some cheese as far back as I have any record, back to Confederation. There are certain types of cheese for which there is a small demand, not large enough to encourage production in this country. Some people like a little Camembert, Roquefort, or Gorgonzola, or a little Swiss cheese occasionally. But those are small quantities, and no factory could afford to undertake to manufacture it.

We import butter in a curious way. We import butter from Syria. It is a butter that is made from melted fat, and used to come in, I think, under the head of G, a sort of butter oil, and it is, no doubt, imported by the Syrians. We import, as a matter of fact, first class butter from the Fijian Islands. And we import milk and cream from Alaska. That, I suppose, is something that comes across the border into the Yukon. Some man happens to have a farm just on the other side of the border.

We have imported both butter and cheese, as I say, for the last thirty or forty years, in small quantities, until during the years 1912, 1913 and 1914, it reached a considerable proportion, and in recent years we are importing more than ever before.

I think the time will come when we will have an export of butter. It all depends. I am not going to attempt the role of prophet here, but if anyone had told me or had told anybody else, that in 1924, we would require to import butter in 1928, he would have been laughed at, because then there was every indication that instead of a deficit we would have had a surplus in 1928 of 50 million pounds of butter to export. If we had increased at the same rate that our surplus had increased for the four years following 1924, as in the four years preceeding, that is what would have happened. But the increase in consumption, the very rapid increase in consumption of all milk products in Canada during those four years, and the lack of progress in the continued production of butter, affected by the falling off in the western provinces, changed the whole situation.

The dairy produce trade is an international one. Butter and cheese are shipped from all over the world everywhere, and it is complicated by the fact that the southern hemisphere is the greatest producer of butter and cheese, because they have such a small population to consume it at home. We produce far more milk in this country than New Zealand does, yet New Zealand to-day is the largest exporter of dairy produce in the world. They export 80 per cent of their total produce, while we export 13 per cent.

Then, with butter and cheese coming at different seasons of the year from all parts of the world, affected by climatic and industrial conditions, strikes, and one thing and another, it is a very complicated process, and no one can tell what is going to happen. But I do think that it is altogether likely that we will go back into the market as an exporter of butter. It is just as well to remember this fact, however, that if we do, we will have to take relatively less than we have been getting for our butter in times past, because then we will have to take the world's market price.

Q. Just at that point, Doctor, much has been said about New Zealand being much better situated climatically for producing butter and cheese?—
A. I am just coming to that point, Mr. McMillan. That, I think, is worth discussing. And, may I say, that I think I am probably in as good a position as any person to make the comparison between New Zealand and Canada, because I worked there for some time as Dairy Commissioner; I revisited the country five or six years ago, and I have kept in very close touch with what has been going on in that country ever since.

We hear a great deal about the alleged advantage of the year-round pasture. That is, I suppose, an advantage, and it sounds very well at a distance. But that is only one factor in the cost of producing butter and cheese in New

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Zealand. I was very much interested in a recent journal which I got from New Zealand, which pointed out that in one district they were beginning to house their cattle during the winter months, not continuously putting them in the fields during the wet periods. They found that it had this advantage, that when the cattle are allowed to run on the pastures during the winter season, which is continuously wet, they destroyed the pastures very much by trampling them all to pieces. The soil is very loose there, and the yards and lanes where the cows are handled get into an almost impassable condition. I have seen the mud so deep around those places that a man could not go in and drive the cattle on foot; he had to go on horseback. It is a very deep, loose soil, and with continuous rains it just works into a regular deep puddle. They found that instead of increasing the cost it has actually reduced the cost, to some extent. They have not in the past, however, provided much in the way of equipment for housing cattle, and that has been considered an advantage. But against that you have to place the high cost of land. A good dairy farm in New Zealand—and when I say a good dairy farm it means cleared land with grass all over, and no buildings except the cottage or house—will sell for up to five hundred dollars an acre in the best districts. It does not all sell for that, but some dairy farms have been sold for seven hundred and fifty dollars an acre—nothing but the bare land, in grass, of course. These dairy farms are not cultivated at all, although they do sometimes raise a few roots. They raise turnips, and turn the cows into the turnip fields, and allow them to eat the turnips in the field.

By an hon. Member:

Q. What do they do for concentrates?—A. They do not use a great deal. In one part of the country they grow oats, and they make chaff, as they call it. They cut the whole sheaf and they feed that. It is fed a good deal to horses too. And there is a small territory on the north island where they grow maize, but they import some. New Zealand is not a cereal country. They do not grow enough wheat to supply their own needs, and they import some corn and maize from Australia. They are not using a great deal of concentrates.

By Mr. Senn:

Q. What kind of grass do they use for pasture?—A. Rye grass—English grasses.

Q. Can you tell us how many cows they handle on 100 acres?—A. I have seen eighty cows on 100 acres, but that would be exceptional. I have some figures on that. The average number of cows per herd, I think, is 53 or 58, and the average size of the dairy farm in this calculation was 150 acres.

By Mr. Donnelly:

Q. What is the value of the land?—A. It sells up to \$500 an acre in some places, but I think that would be too high for an average. Probably between \$300 and \$400 an acre would be nearer an average for good dairy land, cleared and seeded. The way they clear the land there is to slash it down during the winter season. The trees, of course, are evergreen there; their leaves never fall, and when they slash this stuff down there is a good deal of brush and leaves. They wait then for a dry period in the summer, as dry as possible. It never gets very dry. Then they set the whole thing on fire. I once assisted in burning 1,200 acres one afternoon and it is quite an experience. The fire ran over the whole thing in a few hours and burned out the brush, but the logs and stumps were not burned at all. I was there three months after, and the grass was growing. They had sown some rape, and had had a lot of sheep and cattle pasturing there. You must remember there is very little grass in New Zealand.

[Dr. J. O. Ruddick.]

By Mr. Sinclair (Wellington North):

Q. Do they grow any clover there?—A. Yes, they grow it now in soil that a few years ago they thought was absolutely worthless.

By Mr. Senn:

Q. What breeds of cattle do they raise?—A. In the pure breeds the Jerseys predominate, then the Ayrshires, and then the milking shorthorns.

By Mr. Howland:

Q. Are there any figures to suggest the gross returns from cows in New Zealand and Canada?—A. No, not very accurately. I think, as nearly as I can find out, their average production does not differ greatly from ours. They have not been dairymen very long and are not well up in the matter of weeding, and while their cows can run out all the year round, do not forget that dairy cattle in New Zealand suffer more from exposure than in Canada, because you cannot turn a cow out at a temperature of 40 or 50 degrees in a pouring rain for days at a time without taking a great deal out of her. As a matter of fact, they attempt to protect the cows by putting waterproof rugs on them, but the rugs get filthy and they have all sorts of trouble.

Q. I was particularly interested in the financial return.—A. Here is a point which will interest you. We have made a careful calculation on this point, taking the actual payoff in the factory in New Zealand and Canada, cheese factories and creameries both. Taking the actual money paid for cheese and butter, the Canadian cheese and milk producers get 14.5 cents more out of every dollar's worth of cheese sold in London than the New Zealand farmers do. In the case of butter it was not so large; it was only about three and a fraction. The reason is the high cost of manufacturing and marketing. Our manufacturing costs are low and our marketing costs are extremely low.

By Mr. Senn:

Q. There is the question of freight rates too?—A. Yes, there is some difference there. That brings me back to the point of the competition. As I said, all-year-round pasturization is only one factor. Another factor is the cost of labour, which is higher. All these farm hands are unionized and demand certain prices, and the man who is running a dairy farm and has nothing else on his land but dairy cows—never turning a furrow—is concerned chiefly with the milking of his cows. They have large herds and in many instances use the milking machines. I know of cases where there are three hundred or four hundred cows on one estate.

Then, they are not fully utilizing their by-products to advantage. A great deal of the skimmed milk is thrown away because they have no bacon industry. They are beginning to export frozen hogs a little, but they cannot utilize the whey and the skimmed milk from the cheese factories to good advantage. But in the large establishments—and when I say "large establishments" I mean those larger than anything we have in this country—they are manufacturing their skimmed milk into milk powder, and one of the larger cheese factories is making milk sugar from whey. But that does not apply to a large number of factories.

By Mr. Vallance:

Q. Do they raise all their calves?—A. No.

Q. What do they do with them?—A. Kill them, the same as we do in our dairying districts. They have no market for them. New Zealand at one time had a considerable frozen beef trade, but it has been killed entirely by the chilled meat trade from the Argentine. They are still strong in frozen mutton, but that is entirely different.

[Dr. J. O. Ruddick.]

Hon Mr. Beaubien:

Q. Is New Zealand dairying very well established? Is it pretty well all dairying?—A. No. The great bulk of the land is still under sheep and the wool industry is still their greatest industry. Their exports of agricultural products—and they are practically all pastoral products—run about £52,000,000 sterling a year and of that I think £11,000,000 is wool. That was the last figure I had.

By Mr. Howland:

Q. Can they afford to grow wool and mutton on land costing \$500 an acre?—A. No, but the situation is that the people who had that land got it for perhaps a shilling an acre and they hung on to it, and they can continue to carry on, but the moment the land goes on to the market, it goes into dairying because they cannot afford to raise wool and mutton on the land at the present price. You must remember, however, that there is a lot of land that is not fit for dairying. There are lots of hilly land and dry land which would take about ten acres to carry a sheep; that is not any good for dairying. New Zealand is a very rough country. I think I am safe in saying that the north island of New Zealand has not ten acres, excepting some river bottom, of level land—the whole north island, and I have been all over it. It is all volcanic. There are several considerable mountain ranges, and one or two snow-capped mountains, and the rest of the country is water-borne and cut and broken into ridges. Sheep can climb over them and the cattle can to some extent, but you cannot cultivate it. The south island is a different country. There is a chain of mountains running the whole length, and for a hundred and fifty miles there is continuous snow; they run up to 12,000 feet and the snow line is very level on account of the cool climate and the heavy precipitation. Glaciers run down almost into the sea.

By Mr. Cayley:

Q. What is the population?—A. About 1,200,000. In the south island there is a plain about the middle of the island on the east coast where there is a very good farming land, and upon that they grow cereals, some wheat and oats. They raise some sheep, but a great deal of the country is very, very hilly and rough, and there is a limited amount of land. That is the reason for the high prices. For every block of land put on the market there are one hundred applicants. Land cannot be supplied to all who desire it.

By Mr. Howland:

Q. They are not subject to the drought which they have in Australia?—A. No. It is reported they are having dry weather just now and it is cutting down their production. I have not heard that rumour confirmed. A gentleman with whom I was speaking last Monday said that he had a cable to that effect, but he is interested in the price of butter and I do not know how much there is in it.

I do not think the Canadian farmer has any reason to fear the competition from New Zealand, especially if you keep up the quality, and you will have no trouble in disposing of your produce at a higher price. New Zealand can never drive Canadian produce out of the market.

There are a good many other features of this situation which one might dwell upon. I would not like to be understood as saying anything derogatory to the dairying industry in New Zealand. So far as the manufacturing end of it is concerned—the factory end of it—they are far ahead of us. They put more money into their dairying equipment. A quite ordinary factory in the country is not very expensive if it costs \$50,000. They make a combined factory for butter and cheese. They think nothing of that figure; many factories run to

[Dr. J. O. Ruddick.]

twice that amount—just ordinary country factories. They are all co-operative. The largest cheese factory I know of makes close to 100,000 tons of cheese a year, and they have less than one hundred suppliers, and the milk comes from an area within a radius of three miles. But as regards production, the situation is not so satisfactory because their methods are crude and conditions are difficult. They have so much wet weather and mouldy and dirty conditions and the milk product is not up to ours. Our factories are being supplied with better milk than theirs are, and they have many difficulties in overcoming the injurious flavours. They found it necessary to Pasteurize all milk for cheese making to get rid of unpleasant flavours, and that is very expensive. A Pasteurizing outfit costs more in New Zealand than the total cost of a Canadian factory. They have handicaps which mean a good deal in competition. I do not think we have any reason to fear their competition, because New Zealand cheese has never displaced a single pound of Canadian cheese on the market, and never will as long as we make a better quality.

By Mr. Howland:

Q. Are there any figures on the returns to the Canadian farmer who sells milk to the cheese factories?—A. I think, as near as I can tell, probably the average production of the cows whose milk is sent to the cheese factories is a little over 4,000 pounds a year because in the best dairying district the cows have a higher average yield than generally.

Q. What would that amount to in dollars?—A. I would have to figure that out.

Q. What does he get for his milk?—A. We will say roughly that he will make four hundred pounds of cheese at 20 cents—

Q. Does the farmer get 20 cents for his cheese?—A. He did last year.

Q. Oh, did he?—A. Yes.

By Mr. Sinclair (Wellington North):

Q. Take an average herd of 80 cows on a hundred acres: what would those 80 cows produce in a year in New Zealand?—A. I do not think their average differs greatly from ours; somewhere around 4,000 pounds of milk.

Q. That would average 20 pounds per milking, 40 pounds of milk per day. That is pretty low.—A. They have not a high yield; they are not high grade cows. It is about the same as ours.

Q. The season is longer.—A. The season is longer. There is just one point there that I overlooked, and it is worth taking up. While they have a longer season of growth—this is not exactly on the point you raised—the growth is very much slower than here. Nature adjusts herself to this condition, and even with a continuous growth throughout the year there is not much growth in certain seasons of the year. Consider the growing of cereals: they begin to sow as soon as the previous crop is harvested. They sow and reap the crop and thresh it and sow again right away. It takes all that time to produce a crop. So there is not very much advantage in this all-year-round pasture. I am afraid I cannot give you very close figures on that as I have not been thinking of that point at all.

By Mr. Vallance:

Q. Does the clover and hay only produce one crop a year?—A. Yes, but there would be a long season of grass after the crop. They do not grow much hay; they cut very little; there is hardly enough cut to form an opinion on that. They do not feed hay to the horses. They feed what they call oat chaff—whole oat chaff—to the horses. It is nearly all nose-bag feeding. Of course, in the country they do not feed anything; they turn the horses out in the paddock overnight.

[Dr. J. O. Ruddick.]

By Mr. Senn:

Q. You made the statement that the price of cheese was the standard for dairy prices generally. In the case of the milk producers' associations, where they set the price of milk to be delivered to certain cities of Ontario, they change the prices spring and fall. Does the price of cheese enter into that?—A. I think it has an effect on the general level of both summer and winter prices. The producers asked more money for their milk last year because the price of cheese was high.

Q. Is it not the cost of production which enters into it?—A. I do not think the cost of production has much to do with it. It is the market; the price you can get for it. That is used as an argument, but I do not believe it has much to do with it. The price of cheese is determined by the price we can get in the old country. Sometimes it is higher in Canada than it should be because Montreal is one of the great priming markets of the world—in fact, it is the great priming market of the world—and there is more competition there than at any other point. That sometimes puts the price a little too high, but generally it is the old country price which governs, and if you want more milk for a city, when there is an increased demand for city consumption, they go into the cheese-making districts to get it and you have to pay the price over and above the price of cheese, whatever it happens to be, to get the milk. I am not saying it absolutely affects the price, but the general level is determined by the price of cheese, because that is our export commodity.

Q. Does the price of cheese really fix the price of butter?—A. Certainly. It does not fix it absolutely. The price of butter is higher now, because we have none to export, but it has a bearing on it. If the price of cheese was five cents a pound lower the price of butter would be five cents a pound lower than it is.

By Mr. Steedsman:

Q. Can you give us the actual price from the standard or milk— —A. You mean 3,000 pounds?

Q. Yes.—A. No, I cannot give you that offhand because I do all of my reckoning another way. The reckoning of milk by standard is local in central Ontario and it does not apply in any other part of the country and I am not in the habit of thinking that way of milk values. Usually it is by the pound of butter fat or 100 pounds of milk. I cannot give you that figure offhand; I would have to figure it out. I think last year the average was around 1.75 per hundred pounds.

Q. That would be pretty high.—A. It was high; it was a high price. Cheese went up to 22 cents which meant that the farmers last year got a better return than they got for supplying market milk. There is one point I have not touched upon. I would like to ask Dr. Grisdale if he can tell me how many cows were slaughtered in the last year in an effort to eliminate tuberculosis.

DR. GRIDDALE: Roughly, I would say about 16,000.

THE WITNESS: That slaughtering of cows for that very worthy purpose and the rather large number of cows exported to the United States have had some effect on production during the past year or two. Some people think it is rather an unfortunate thing that we are exporting so many cows. It does not seem to me that is to be deplored at all. If you can find a good market for dairy cows in the United States, it seems to me it is another source of revenue. There would be no difficulty about maintaining the herds and having a very large surplus for export, because we would simply raise the calves which are now slaughtered almost as soon as they drop.

[Dr. J. O. Ruddick.]

Q. Do you not think our good dairy herds are diminishing?—A. I do not think there is much diminution. Very often a man who sells one or two cows out of a herd of ten will produce as much milk or more milk than with his full herd, because he is feeding them better.

By Mr. Steedsman:

Q. Is it not a fact that our better cattle is being sold for export?—A. I cannot answer that. I do not think so. I do not think it is reasonable to suppose that a farmer will sell his best cows.

By Hon. Mr. Sinclair (Queens):

Q. In the figures you gave for the returns of milk which went into the manufacture of cheese, did you include the cost of drawing the milk to the factories?—A. No, because in most cases the milk is delivered by the patrons. I was referring to the actual charge for manufacturing. I may be a little out on those figures, and I would like the opportunity of checking them up.

Q. I think you are exactly right if you do not include the haulage charges.—A. Yes.

By Mr. Sinclair (Wellington North):

Q. If cheese sells for 22 cents a pound, you could afford to pay \$1.75 for milk?—A. Yes.

I have kept you quite a while, gentlemen, but I will answer any questions you like to ask, if I can. I am sorry I have been a little rambling this morning. I only received notice on Monday to come here and give evidence, and I have been away from my office ever since. I did not have the time to prepare myself, and have had to rely on my general knowledge of the situation. I hope I have told you something of interest. I would like to say that I have given a number of addresses during the past winter at various dairy conventions. I gave one at Belleville a month or so ago which covered the dairy situation pretty generally, and I have had that mimeographed. If you like I will be glad to get the names of the members of the Committee and send copies to you.

The ACTING CHAIRMAN: I think that will be unanimously endorsed by the Committee, Dr. Ruddick.

The WITNESS: I will be glad to answer any other questions. I may say that we make it a practice in our branch, when we have anything of interest, such as papers prepared for conventions, to have them mimeographed and to keep copies on hand so that we can send them out at any time. We also try to keep our statistical information up to date and have adopted the practice of making up sheets, like this (indicating), showing the total amounts of cheese and butter, and the value of each, from 1868 down to the end of the last fiscal year. Here (indicating) is a record of prices for the last two years; the actual price in Montreal and the export value, showing the premiums which ran from one cent per pound up to fourteen cents. That is the premium you are receiving for butter in Canada over the export value, and we are glad to supply that information to anyone who wants it, at any time. I thank you for your patience and kindly hearing.

Mr. McMILLAN: Mr. Chairman, I think we have had an excellent outline of the dairy situation to-day, and I take pleasure in moving a vote of thanks to Dr. Ruddick. (Carried.)

By Mr. Spence:

Q. You mentioned that there was a slight reduction in the consumption of butter in Canada.—A. Oh no; quite the opposite, a big increase.

Q. You were speaking about the splendid quality of our cheese in the old country. Do they export all the good cheese to the old country? You can go

[Dr. J. O. Ruddick.]

into 75 per cent of the Canadian stores and you cannot get a good piece of cheese, except the package cheese. Does all the good cheese go to the old country?—A. No; it is not all exported. There are some places where you can get good cheese. It is a fact that the average retailer does not seem to know much about the quality of cheese, and does not know how to take care of it after he buys it, so it goes wrong on his hands. He does not keep it at the right temperature. There are a few grocers who buy good cheese and mature it properly. I know of a few places in this city where you can get a good quality Canadian Cheddar cheese, but I think you will find in buying cheese that if you go into the average grocery store you may find a piece of cheese you like, and so you go back and get some more and find it is entirely different. There is an advantage in the package cheese in that it is uniform in quality, and if you buy it once you can afterwards order it by telephone and get the same thing. That is one of the reasons why it is sold, and one of the reasons which has increased the consumption of package cheese. I admit there is great room for improvement in the retailing of cheese in this country. Our cheese, when it gets on the counters, dries out very quickly and there is a great deal of waste, and unless the grocer shaves off the outside of it you get a piece of dry cheese which has lost its flavour.

Q. What we are getting in Canada is tough, immature cheese, and the grocers say that they cannot secure any other.—A. That is not right.

Q. I know it is right in the city of Toronto. I don't believe there are twenty-five stores in the city of Toronto which carry a properly matured cheese.—A. I did not mean to say that you were wrong, Mr. Spence, but the grocers are not right in saying that. They can get good cheese.

Q. Why is there so much inferior cheese left here? I have seen cheese which cut just like leather.—A. Yes, but if that cheese were kept long enough it might be very good cheese. It is a question of maturity.

Q. They should keep it a year before they sell it.—A. I do not think that is possible.

Q. There should be some regulation that the cheese factories should keep their product until it is properly matured.—A. I do not think they have the proper place in which to keep it.

By Mr. McMillan:

Q. I know grocers in our section of the country who go direct to the factory every year and select their cheese, and they seem to have a knowledge of how to keep it until it is matured. In that way we are able to get good cheese in our section of the country. In connection with September cheese, can you outline a system of keeping that?—A. Well, the keeping of cheese and the proper maturing of cheese is almost wholly a question of temperature. If you want a mild flavoured yellow cheese, keep it at a low temperature; if you want a nippy, sharp quality of cheese, keep it at a comparatively high temperature, and when I say "high temperature" I mean ordinary room temperature. A low temperature would be around fifty or sixty degrees. If cheese is kept and matured at a temperature of fifty or sixty degrees it would never have that nippy, strong flavour. You would have to keep it about a year. This cheese that this gentleman is speaking about is immatured cheese. It is only curds, that is all. I know there is a great deal of that sort of cheese being offered on the market. That is unfortunate, because it is a thing which keeps consumption down in this country.

By Hon. Mr. Motherwell:

Q. It is a fact that if anyone wants a good cheese they will have to pay the price for it?—A. Of course, you will have to pay more for mature cheese than for green cheese.

Hon. Mr. MOTHERWELL: That is the reason why our imported cheese to-day is bringing five cents more than other cheese.

By Mr. Spence:

Q. Would it not pay the manufacturers to keep it, so that they would get the extra five cents?—A. It would have to be kept in storage, and the manufacturers have not got the facilities.

Q. You can always engage space for storage.—A. Yes, but the farmers want their money.

Q. Do they not consider the industry at all?—A. The individual never considers any industry, or anything else.

Q. But we are speaking about cheese factories here?—A. The same applies there too.

Q. It seems to me it is poor judgment, that is from the country's standpoint?—A. That may be, but we are dealing with the facts of the case.

Q. What is the difference between the English Stilton cheese, and the Canadian Stilton cheese? Why is there such a big difference in the quality?—A. Is is a different kind of cheese.

Q. It gets the same name. It is called English Stilton.—A. There is no such thing as Canadian Stilton. There never was. There is a little made out at Agassiz in British Columbia.

Q. They tell you it is?—A. Well, it is a misnomer.

Q. I thought it must be. —A. There is no such thing.

The witness retired.

The Committee adjourned.

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Government
Publications

SESSION 1929

HOUSE OF COMMONS

MINUTES OF PROCEEDINGS AND EVIDENCE

OF THE

SELECT STANDING COMMITTEE

ON

AGRICULTURE AND COLONIZATION

Respecting the Statutory Grades of Barley

WEDNESDAY, MAY 15, 1929

Witnesses: Professor T. J. Harrison, Agricultural College, Winnipeg;
Paul Bredt, a Director of the Wheat Pools; J. D. Fraser, Chief
Grain Inspector; Dr. Newman, Dominion Cerealists.

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1929

MINUTES OF PROCEEDINGS

HOUSE OF COMMONS,

WEDNESDAY, May 15, 1929.

The committee came to order at 11 o'clock a.m., Mr. Brown, in the absence of Mr. Kay, presiding.

Members present: Messrs. Anderson, Bancroft, Bock, Brown, Carmichael, Cayley, Donnelly, Fansher, Garland (Bow River), Gardiner, Glen, Lucas, McKenzie, McMillan, Millar, Motherwell, Sinclair (Queens), Spence, Steedsmann, Totzke, Vallance, Young.

The committee took under consideration the advisability of amending the definitions of the Statutory Grades of Barley, applicable to barley grown within the Western Inspection Division.

Professor T. J. Harrison of the Agriculture College, Winnipeg, appeared before the committee and submitted definitions for barley grades as prepared by the sub-committee on grades of the National Barley Committee.

Mr. Harrison was followed by Mr. Paul Bredt, a director of the Canadian Wheat Pools, J. D. Fraser, Chief Inspector under the Board of Grain Commissioners, and Dr. Newman, dominion cerealist, who gave evidence on the subject under consideration.

The following amended definitions of grades were submitted as drafted and agreed upon by the said sub-committee, namely:—

BARLEY GRADES

Grades Nos. 1, 2 and 3 Extra Barley shall apply to barley that is of good utility value for malting purposes and for these grades, "sound", shall mean, free from frosted, sprouted, heated, musted, or artificially dried grain, and shall be practically free from broken, skinned or artificially damaged grain.

SIX-ROW BARLEY

No. 1 Canada Western Six-Row Barley shall be composed of 95 per cent six-row barley of one variety or type, and equal in value for malting purposes to O.A.C. 21. It shall be sound, clean, practically free from other grain, plump, bright and weigh not less than 50 pounds to the bushel.

No. 2 Canada Western Six-Row Barley shall be composed of 95 per cent six-row barley of one variety or type and equal in value for malting purposes to O.A.C. 21. It shall be sound, reasonably clean, reasonably free from other grains but not plump or bright enough to be graded No. 1, and shall weigh not less than 49 pounds to the bushel.

No. 3 Extra Canada Western Six-Row Barley shall be composed of 90 per cent six-row barley equal in value for malting purposes to O.A.C. 21. It shall be sound, reasonably clean, reasonably free from other grains, but may include weather stained and slightly shrunken barley and shall weigh not less than 48 pounds to the bushel.

TWO-ROW BARLEY

No. 1 Canada Western Two-Row Barley shall be composed of 95 per cent two-row barley of one variety or type and equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, clean, practically free from other grain, plump, bright and shall weigh not less than 52 pounds to the bushel.

No. 2. Canada Western Two-Row Barley shall be composed of 95 per cent two-row barley of one variety or type and equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, reasonably clean, reasonably free from other grains, but not plump or bright enough to be graded No. 1, and shall weight not less than 50 pounds to the bushel.

No. 3 Extra Canada Western Two-Row Barley shall be composed of 90 per cent two-row barley equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, reasonably clean, reasonably free from other grains, but may include weather stained and slightly shrunken barley and shall weigh not less than 48 pounds to the bushel.

TREBI GRADES

No. 1 Canada Western Trebi Barley shall be composed of 95 per cent Barley or Trebi type, shall be plumb, bright, sound, practically free from other grain and weighing not less than 50 pounds per measured bushel.

No. 2 Canada Western Trebi Barley shall be composed of 95 per cent Barley of Trebi type, shall be reasonably clean, sound, reasonably free from other grains, but not bright or plump enough to be graded No. 1, weighing not less than 49 pounds per measured bushel.

No. 3 Extra Canada Western Trebi Barley shall be composed of 90 per cent Barley of Trebi type, shall be reasonably clean, sound, reasonably free from other grain, but may include weather stained Barley and weight not less than 48 pounds per measured bushel.

FEED BARLEYS

No. 3 Canada Western Barley shall be barley composed of any variety or type or combination of varieties or types, shall be sweet, reasonably clean and reasonably free from all other grains, may include weather-stained, immature, shrunken, slightly frosted and otherwise damaged barley and shall not weigh less than 47 pounds to the bushel.

No. 4 Canada Western Barley shall be barley composed of any variety or type or combination of varieties or types, shall be sweet, and may include damaged or stained barley and shall not weigh less than 46 pounds to the bushel.

No. 5 Canada Western Barley shall include damaged and badly weathered barley, and shall not weight less than 42 pound to the bushel.

No. 6 Canada Western Barley shall include all barley excluded from the preceding grades on account of weight or admixtures.

Barley inspected as "No Grade", "Tough", or "Damp", and artificially dried, shall not be graded higher than No. 3 Canada Western Barley.

Consideration of the adoption of the amended grades so recommended was deferred till a subsequent meeting.

The committee adjourned till Friday, May 17, at 11 a.m.

A. A. FRASER,
Clerk of Committee.

MINUTES OF EVIDENCE

HOUSE OF COMMONS,

WEDNESDAY, May 15, 1929.

The Select Standing Committee on Agriculture and Colonization met at eleven o'clock A.M., the Acting Chairman, Mr. J. L. Brown, presiding.

The ACTING CHAIRMAN: Gentlemen, we are met this morning for the purpose of hearing Professor Harrison of the Agricultural College, Winnipeg and Mr. Bredt, a director of the Wheat Pool, in regard to barley grades. You will recall that at an earlier date, March 14th as a matter of fact, we had presented to us certain revisions of the grades of barley, but it seems that since that time investigations have been made in the Old Country by these gentlemen who have obtained certain new information, that they desire to submit for your consideration. We will hear now from Professor T. J. Harrison.

Prof. T. J. HARRISON called.

Prof. HARRISON: Mr. Chairman and gentlemen, at the outset I wish to state that any information I am able to give you will be largely the result of three months' study of the barley markets in Europe. This study was made possible by the generosity of the Canadian Co-operative Wheat Producers, Limited, who asked that I associate myself with one of their directors, Mr. P. F. Bredt in conducting an investigation to determine the possibility of securing a better market for Western Canadian barley. In the course of the investigation the markets in the largest barley importing countries were visited, namely, Germany, Great Britain and Northern Ireland, Holland, Belgium and Denmark. According to Bromhall, Europe imported 20,184,000 quarters of barley in 1927, of which the above named countries imported 19,017,000 quarters, or over 94 per cent. In these countries data and opinions were secured from the research workers, barley merchants and importers, manufacturers of barley products and consumers of feeding barley. In all statements were secured from 196 people, so that it is fairly conclusive.

Throughout the whole investigation the one thing that was most forcibly impressed upon us was that Canada was not delivering to this market barley in the condition that the consumers wanted. It has been stated that there are three parties interested in the marketing process, the producer, the middleman, and the consumer, and of these three the consumer is the most important. This is particularly true with barley, for the consumer has so many choices that the market is a "buyers' market," and not a "sellers' market," with the result if Canada is to extend or even maintain her sales she must offer what the markets require. To do this the grades offered must be adapted to the requirements of the trade.

I think at this time we had better take up the grades which have been suggested. Mr. Bredt and I have worked on this for a considerable time. A draft was submitted to the sub-committee on grades of the National Barley Committee. This sub-committee met yesterday afternoon, last night, and again this morning and they are suggesting some slight changes to those that were adopted or suggested at a previous meeting of the Agricultural Committee.

[Prof. T. J. Harrison.]

If you have copies of the evidence given on March 14th, you will find the suggested barley grades on page 4 of those "Proceedings," starting with No. 1 Canada Western Six-Row Barley.

The sub-committee now submits amended definitions of grades as follows:—

No. 1 Canada Western Six-Row Barley shall be composed of 95 per cent six-row barley of one variety or type, and equal in value for malting purposes to O.A.C. 21. It shall be sound, clean, practically free from other grain, plump, bright and weigh not less than 50 pounds to the bushel.

You will notice that we have raised the weight per bushel to 50 pounds. The reason for this is that at every place we visited one of the things mentioned by the buyers, manufacturers and feeders who had copies of the Act, "Here is your best barley, and it weighs only 45 pounds, while we are buying from the Danube barley that weighs 51 to 52," so that I think in all these grades we should endeavour to have the weight as high as we can and not exclude the good barley.

I may say that I have had the privilege of going over some of the inspection records at Winnipeg, and I found that the average weight of barley in the different grades from Winnipeg inspection records of cars shipped over the Canadian Pacific Railway lines from August 8, 1928, to September 20, 1928, are as follows:—

Range of weight of barley and average weight of barley in different grades from Winnipeg grain inspection records of cars shipped over Canadian Pacific Railway lines from August 8, 1928, to September 20, 1928:—

	No. of Cars	High	Low	Average
No. 3 CW	746	57	44	49.90
No. 4 CW	574	58	42	48.95
Reject	440	54	41	48.70
Feed	548	55	38	47.23
Barley and wild oats	82	51	39	44.85

It will be noted that No. 3 C.W. has an average weight of almost 50 pounds per bushel. Therefore there should be no hardship in making the minimum for the highest grade 50 pounds.

No. 2 Canada Western Six-Row Barley shall be composed of 95 per cent six-row barley of one variety or type and equal in value for malting purposes to O.A.C. 21. It shall be sound, reasonably clean, reasonably free from other grains but not plump or bright enough to be graded No. 1, and shall weigh not less than 49 pounds to the bushel.

This is an increase again of one pound per bushel, which we believe can quite easily be made with clean barley.

No. 3 Extra Canada Western Six-Row Barley shall be composed of 90 per cent six-row barley equal in value for malting purposes to O.A.C. 21. It shall be sound, reasonably clean, reasonably free from other grains, but may include weather stained and slightly shrunken barley and shall weigh not less than 48 pounds to the bushel.

There is 5 per cent of an increase in purity of type, because buyers of this barley in the Old Country do not want a mixture of Trebi with the O.A.C. No. 21 type. I do not think that will exclude very much barley as grown by the farmers. There may be some mixing in the country elevators, but if this regulation is in effect I do not think that will be a very serious thing, because it can be kept separate.

[Prof. T. J. Harrison.]

By Mr. Lovie (not a member of the Committee):

Q. Professor Harrison, I find an article in the *Free Press* this week which says:—

There does not seem to be a place in the British brewing trade for O.A.C. 21, as it has not the characteristics required in six-row brewing barley, and would have to compete in the two-row class, but would be so inferior to the two-row barleys that there would not be any demand for it.

A. Yes, that is quite true. We are speaking there of one phase of the trade; but not the complete malting trade, because barley is used also as malt in the malt extract, malt food yeast, vinegar and distilling industries, and in all those the O.A.C. No. 21 type is the barley they want. This is because O.A.C. No. 21 is high in diastase. I want to make that clear, Mr. Lovie. There is no place for O.A.C. No. 21 in the brewing trade, but there is in the other trades.

Mr. LOVIE: This article condemns the O.A.C., but that explains it.

The WITNESS: We do not want to condemn O.A.C. No. 21 because there is a place for them both it and Trebi.

Two-Row Barley:—

No. 1 Canada Western Two-Row Barley shall be composed of 95 per cent two-row barley of one variety or type and equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, clean, practically free from other grain, plump, bright, and shall weigh not less than 52 pounds to the bushel.

Two-row barley, if it is in a clean condition, will quite easily weigh up to 52 pounds.

No. 2 Canadian Western Two-Row Barley shall be composed of 95 per cent two-row barley of one variety or type and equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, reasonably clean, reasonably free from other grains, but not plump or bright enough to be graded No. 1 and shall weigh not less than 50 pounds to the bushel.

The weight is 50 pounds or one pound higher than the grades previously submitted.

No. 3 Extra Canada Western two-row barley shall be composed of 90 per cent two-row barley equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, reasonably clean, reasonably free from other grain, but may include badly weather stained and slightly shrunken barley and shall weigh not less than 48 pounds per measured bushel.

Our two-row barley may find a market in the pearling and pot barley trade in Great Britain. At the present time, because of a regulation passed by the British Ministry of Health, prohibiting sulphur bleaching of these products, Canadian barley cannot be used because it is composed of white aleurone and blue aluerone barley. They can only use that which is white

By Mr. Lovie:

Q. Will you explain the term "Pearling"?—A. Pot and pearl barley is the barley used in soups. The pearl barley is just a little whiter than pot barley. This market is estimated to consume around a million bushels in Great Britain. Since the passing of this regulation I am doubtful whether it uses one-quarter of that amount. It is essential therefore that we keep this grade with the minimum of blue aleurone, hence 90 per cent is as high a mixture as can be allowed. The weight in this grade remains the same.

[Prof. T. J. Harrison.]

Trebi: The Committee, after listening to our report, considered that there should be a No. 1, a No. 2 and a No. 3 Trebi. If you turn to the top of page 4 you will find these definitions. I may say that our reason for adding three grades of Trebi is that in the brewing trade there are two classes of barley used. There is the two-row barley and the six-row barley. The eastern counties in England and Czechoslovakia produce the best two-row barley, while Northern England, Scotland, Denmark and Poland also produce an inferior quality.

They use two-row barley in part of their mix and also about 15 per cent to 40 per cent of six-row barley. The best quality of six-row comes from California and Chili; the poorer qualities coming from the Mediterranean countries and from the Danubian countries.

O.A.C. 21 is not suitable for the brewing trade.

The Trebi looks very similar to the California bay brewing, to the Chilian brewing or forage and to the Mediterranean and the Danubian barleys, with the result that brewers and maltsters think there was a place for it in this trade. It would have to be improved to be equal to the best quality, but they thought there would be a limited market for it as it is. Therefore there should be grades made for it.

No. 1 Canada Western Trebi Barley shall be composed of 95 per cent Barley of Trebi type, shall be plump, bright, sound, practically free from other grain and weighing not less than 50 pounds per measured bushel.

That means the raising of the weight from 48 lbs. to 50 lbs. per bushel.

Mr. LOVIE: It is 45 pounds on page 4.—A. That is a mistake. That should have read 48 pounds. I think that was a typographical error.

No. 2 Canada Western Trebi Barley shall be composed of 95 per cent Barley of Trebi type, shall be reasonably clean, sound, reasonably free from other grains, but not bright or plump enough to be graded No.

1, weighing not less than 49 pounds per measured bushel.

Again raising the weight one pound, for the reasons I have mentioned before.

No. 3 Extra Canada Western Trebi Barley shall be composed of 90 per cent Barley of Trebi type, shall be reasonably clean, sound, reasonably free from other grain, but may include weather-stained Barley and weigh not less than 48 pounds per measured bushel.

There is no change in that at all, excepting the purity is raised from 85 per cent to 90 per cent.

By Mr. Lovie:

Q. That would be a feed barley, then?—A. No. It would come in to the lower quality malting trade. I think there is a place for this even at present on the Old Country market. This is one thing you find, when you visit the different maltings, they do not all use exactly the same quality.

By Mr. Millar:

Q. Is the word "Type" used in the definition synonymous with "Variety"?—A. No, type may include many varieties. We have used the word Trebi for a type because that is best known with our own people.

In connection with these grades there is a preamble or suffix which should be included to define the term "sound."

"Grades Nos. 1, 2 and 3 Extra Canada Western Barley shall apply to barley that is of good utility value for malting purposes and for these grades, "sound" shall mean, free from frosted, sprouted, heated, musted, or artificially dried grain, and shall be practically free from broken, skinned, or otherwise damaged grain."

[Prof. T. J. Harrison.]

We have lost certain markets in the Old Country because artificially dried grain was placed in No. 3 Canada Western. The grain did not germinate more than 60 per cent, with the result that they will not buy Canadian barley at all. They state that if Canada will guarantee that she will send barley that does not include this unsound grain, they would be prepared to buy inside the Empire.

By Mr. Garland (Bow River):

Q. Is it not possible, Professor, to dry barley without spoiling its germinating qualities?—A. It is possible to dry it, because maltsters do dry it, but in actual elevator practice it is not probable. It has to be dried about 125° F. or 130° F. Most of our commercial grain is dried at a higher temperature than that, at 160° F. and higher.

In regard to the feed grades, we believe that in the first place the names of the grades should be changed. No. 4 is a feed grade, and still we have at the bottom of the list a grade that is known as Feed barley. When you talk with the grist millers and compounders of feed who grind barley, they are always confused as to feed grades and Feed barley. Therefore we think that the word "feed" should be eliminated as a grade, and this grade called No. 6 Canada Western. Another misnomer is the Rejected Grade. Rejected barley is distinctly superior to feed barley, but merchants on the Continent, and particularly Germany, could not sell "Rejected" barley because of the name. Therefore, instead of Rejected the grade should be called No. 5 Canada Western. In England and in Denmark they demanded a distinctly cleaner barley than we were delivering, because the wild oat hulls show up in the meal. You understand that over there all the feed, or practically all of the feed is sold to the farmer in the form of meal; and when he gets the meal and he finds in there the black oat hulls, he immediately thinks that the man who sold him the barley has mixed cheap screenings along with his barley. We have evidence of cases that have been taken up under the British Feeding Stuffs Act, where the meal was made from Canadian Feed barley with the result that in the proposed grades we are suggesting that you put some of the feed grades of better quality. Then on the Continent we found that No. 2 Federal, that is the American barley, just suited their demand. It weighs 46 pounds per Winchester bushel, while No. 4 C.W. our corresponding grade would weight about 42, according to the present definition. So that in making up the feed grades we have had in mind: first, that the No. 3 would suit the British and Danish trade. The No. 4 would suit the German, Dutch and Belgian trade, and Nos. 5 and 6 would be two grades lower that would take in the very poor dirty barley and might be sold as at present for mixing.

The definitions that we are suggesting are:—

No. 3 Canada Western Barley shall be barley composed of any variety or type or combination of varieties or types, shall be sweet, reasonably clean and reasonably free from all other grains, may include weather stained, immature, shrunken, slightly frosted and otherwise damaged barley and shall not weigh less than 47 pounds to the bushel.

By Mr. Lovie:

Q. That is a revision?—A. That is a distinct revision of what is printed there. These are the feed grades. You will find that the weight there has been raised from 45 pounds to 47 pounds to meet the United Kingdom demand, and the word "sweet" was put in so that they would be sure they were not getting musty or heat damaged barley.

No. 4 Canada Western Barley shall be barley composed of any variety of type or combination of varieties or types, shall be sweet, and may include damaged or stained barley and shall not weigh less than 46 pounds to the bushel.

[Prof. T. J. Harrison.]

This is put in to compete with Federal No. 2, and if you look at the definition of Federal No. 2 and this grade you will see that they are very similar.

No. 5 Canada Western Barley shall include damaged and badly weathered barley, and shall not weigh less than 42 pounds to the bushel.

No. 6 Canada Western Barley shall include all barleys excluded from the preceding grades on account of weight or admixtures.

Q. These are two new grades?—A. Yes. These are two new grades, to replace Rejected and Feed.

By Mr. Gardiner:

Q. What do you suggest for 1 and 2?—A. No. 1 and No. 2 are the two highest industrial grades.

By Mr. Lucas:

Q. Do 1 and 2 grades take care of any quantity of our present barley?—A. No. 1 and No. 2 would be like No. 1 Hard and No. 1 Northern in the wheat grades. Very little would grade No. 1, a small percentage No. 2, and the bulk of the industrial would grade No. 3 extra.

Q. That is where the great bulk of our barley would come?—A. That is where the great bulk of our industrial barley would come.

Q. Do you know that at the present time we scarcely know what 1 and 2 barley is in the West?—A. I think some would grade No. 2 in the proposed grades, and I believe with the proposed grades it would be an inducement for the production of better barley, and you would eventually get some into No. 1.

By Mr. Garland (Bow River):

Q. If you did not have the word "extra" in at all, you would be more likely to get more into No. 2. With the word "extra" in there there is always the temptation on the part of the local buyers to say, "Well, it is not quite a 2, it is a good extra, we will make it an extra 3 and let it go at that." I dislike the use of the word "extra" in grading of any kind.—A. The Committee considered that point very carefully. The reason for retaining the grade names No. 3 Extra and No. 3 is that both feeders and manufacturers have been buying No. 3. It is used for feed in England and in Denmark. They also use some for a malt extract. So that we retained those two names for the sake of the trade, and we call the better quality of the old No. 3 by the new name No. 3 Extra. This will be used in the malt extract and distilling trade. The poorer or feed quality will still be known as No. 3.

By Mr. Lovie:

Q. Have you cut out the word "rejected" there?—A. The word "rejected" and the word "feed" are both cut out, and No. 5 and No. 6 Canada Western have been substituted.

By Hon. Mr. Motherwell:

Q. Professor, I was wondering how you were going to keep those grades separate after you grade them unless they were specially binned. I know there is a difference between No. 2 barley and No. 6 barley, and all that, but would it not be necessary to keep them separately binned before assurance can be felt that they are not going to be blended?—A. That goes without saying, Mr. Motherwell, that they must be kept separate in the terminal elevators.

[Prof. T. J. Harrison.]

By Mr. Garland (Bow River):

Q. Does that not imply almost a special inspection staff to take care of the barley grades and the barley inspections?—A. I am not prepared to answer that, but Mr. Fraser, your Chief Inspector, is here. He is a member of our Committee, and I would rather that he speak for himself.

By Mr. Millar:

Q. Would you say, Professor, that it seems to be a common characteristic of our barleys to be lighter in weight per bushel than the other barleys that you are speaking of, the Americans and those others?—A. I have not weighed these barleys and I do not know. But I do know this that our definitions are all stated to be much lighter. I do not think that that means that our barleys weigh any less. I think that you will find that the weight has not been a factor in grading.

By Mr. Donnelly:

Q. Can you tell us which way our barley goes out at the present time? We were in Montreal the other day, and from what we saw there it would seem that practically none of our Canadian barley goes out through Canadian ports?—A. I am not a shipping expert, and anything that I would give you would just be an opinion. My opinion would be, from shipments which we send overseas, that a great deal of our barley goes out through American ports.

Q. Does it go out with the Canadian certificate, or with the American seaboard certificates?—A. It goes out in a peculiar way. The barley required for feed in Germany is of the Federal No. 2 quality. Last year, this barley was affected by a disease commonly known as "scab." That scab makes pigs sick, with the result that the German Government prohibited the importation of Federal No. 2. They could not import Federal No. 2. The feeders wanted Federal No. 2. Canadian barley was on the market, so Canadian barley was imported into Germany mixed as follows: about a third of Feed, a third Rejected, and a third No. 4 C.W. It goes out from American ports under a private certificate known as Federal No. 2 Canadian Origin. A large amount of our barley goes into Germany in this way.

By Hon. Mr. Motherwell:

Q. That diseased barley you speak about was supposed to be of American origin?—A. Oh, yes, American origin.

Q. It is admitted that this diseased barley came from the United States?—A. Oh, yes, there is no doubt about that.

By Mr. Bancroft:

Q. In all these grades, you have used the term "reasonably clean." Now, being a Manitoba man you know that there are some very good samples of barley grown, with a lot of wild oats in it. That barley is grown on dirty land purposely to clean that land up. What would happen to that? It might be a good enough sample to go into No. 2. We sell it with wild oats in it, and it might not be quite clean, that is, reasonably clean. Would that have to go away down into Feed barley?—A. That is a matter that we have considered at some length and there is considerable difference of opinion as to the amount of wild oats that can be removed by the cleaners in the terminals. There is a clause in the Act at the present time which says that the inspector may place dockage on any grain to bring it into that grade. Now, if they find that they can clean out 3 per cent it can be cleaned into that grade, or if they find that they clean out 5 per cent it can be cleaned into that grade, but that is something that has to be investigated as to how much can be cleaned out economically in the terminal elevators.

Q. We will have to talk to Mr. Fraser about that?—A. Yes.

[Prof. T. J. Harrison.]

By the Acting Chairman:

Q. It will require a reorganization of the whole barley system, the handling of barley, to bring it more into line with the practice with regard to wheat, it is something that will require a great deal of attention?—A. Yes, if you are going to supply what the market demands over there.

Q. The probabilities are that we will have to increase the handling facilities and the storage facilities, in order to take care of the different grades, to a large extent?—A. I do not know anything about that.

The ACTING CHAIRMAN: Any further questions?

By Mr. Donnelly:

Q. From what you say, I understand that our barley has never established for itself a name in the world's markets, and we are shipping our barley under American seaboard certificates, and your object in starting these grades is to establish a world's market. Is that a fact?—A. Yes. I would not say that our grain was entirely going out under seaboard inspection. There is barley going over there under Canadian certificates and sold as certificate final. The reputation which Canadian barley has is that it is the poorest barley produced in the world.

By Mr. McMillan:

Q. On account of it being mixed with American scab?—A. I did not say that it was mixed with American scab.

By Mr. Lovie:

Q. What about weed seeds in the feed grain? Are you going to allow any?—A. We decided that there should not be more than 3 per cent black seeds in the feed grain; $1\frac{1}{2}$ per cent in No. 3, and then 3 per cent in the lower grades.

Q. Why not take it all out? It is easily taken out.—A. Well, we have gone a long way when we get it down to 3 per cent. Mr. Bredt has been over with me, or rather I with him, on this investigation. He is a director of the Canadian Wheat Pool and I know that he has some things he would like to bring before you.

The ACTING CHAIRMAN: We will hear Mr. Bredt.

Witness retired.

PAUL F. BREDT called.

The WITNESS: Mr. Chairman and gentlemen; after what Professor Harrison has said about the malting grades, there is very little I can add. At the same time I would like to take just a few minutes to back up what has already been mentioned, and possibly add something to it. As a result of our investigation it has become absolutely clear to us that if we want to get into the higher trade, into the trade which carries the premiums we have heard so much about, it is absolutely essential that we change our Canadian grades. We have provided in the proposed grades for these changes. Wherever we interviewed people, either in Great Britain or on the continent, when it came to barley for brewing, for distilling, for malt extract, yeast purposes and any of the allied trades, it was always a matter of germination because unless the barley germinates and germinates practically 100 per cent it is useless for those trades. That means that we have to pay a great deal more attention to barley than we have ever done before, provided you want to get into the higher class trade. If you do not wish to bother with it, and do not consider it worth while, forget about these grades

[Prof. T. J. Harrison.]

and go on as you have done heretofore, and sell your barley as feed barley. But even if you do that, you will have to change your grades to a certain extent, in order to comply with the requirements of the various countries. I will take that up a little later, because that not only has reference to the objections of the feeders, the consumers,—but our grades as they are at present constituted, conflict with the custom regulations of at least two countries, Germany and Belgium. Professor Harrison has given you some figures as to export. The yearly imports of feed barley into Germany are between 70,000,000 and 80,000,000 bushels. It is the largest feed barley market in the world, and yet on account of our present grades we are practically excluded, and it has to go in through a side door.

Now, in so far as these industrial grades are concerned—or call them “malting grades” if you like—to insure germination it is not necessary to state in the Act or in any regulations germination is guaranteed. They want to have germination assured or guaranteed by excluding the damaged grains, which are frosted, sprouted, heated, musty, or artificially dried. They should also practically exclude broken or skimmed grain. Objection to our barley is that it is too closely threshed, and if it is, while it may germinate, it becomes mouldy too easily, and that is the main objection of the maltsters against this too closely threshed barley.

One point which has not been mentioned heretofore—and I am not in a position to lay down any hard and fast rules as to how it should be done, but I think it absolutely necessary that it should be brought before this Committee—and that is a matter concerning the top grades. Something should be done to exclude old barley from the new crop, because old barley if it has been kept for any length of time—and I think experiments will be necessary to determine the length of time and as to how long barley may be kept in our concrete tanks and still germinate sufficiently—is not satisfactory. The objection of the Old Country buyers is certainly against the mixing of the old and the new crop. We came across that, not only once or twice but dozens of times.

The matter of dockage was touched upon. Professor Harrison and I have discussed that at great length and we are of opinion that if at all possible, if the barley measures up to the standard set down in the 1, 2 and 3 Extra C.W. even if it does contain 8 or 9 or 10 per cent of wild oats, it should not be put into a feed grade, but the wild oats should be cleaned out. This may require special cleaning machinery, and there again it is practically revolutionizing your whole system of handling barley. If you are not prepared to do that, drop the grades. If you want to go into the higher trade, you will have to change it in a manner somewhat along the lines suggested.

By Mr. Millar:

Q. Mr. Bredt, what are the greatest uncontrollable factors which militate against the Canadian barley grower?—A. Professor Harrison will correct me if I am not right when I say that our climate, our soil and our growing season are certainly limiting factors so far as the production of the high class two-row brewing barleys are concerned. With our short maturation period, having dry, hot, sunny weather when the barley is forming and maturing, we get a hard, steely kernel. The high class brewing trade wants a kernel that is full, mellow and starchy. That is something which would have to be taken up by our experimental stations and agricultural colleges. Whether there are any sections in western Canada—and I am speaking only of western Canada and not of eastern Canada, because eastern Canada years ago produced a two-row barley which was acceptable to the malting trade in Great Britain—particularly suitable for growing malting barleys I do not know. In Great Britain and in Germany, where a great deal of investigation and research work has been

[Mr. Paul Bredt.]

done, there are certain areas which are particularly suited to the production of these high class types of brewing barley. I say again that our season, our soil and our climate are certain limiting factors, so far as the production of high-class brewing barley is concerned.

By Mr. Lovie:

Q. Why would you say that the soil was?—A. Because we know that the soil varies. There may be certain soils excellently suited for this production, but so far we do not know them. It is a question of making surveys and tests of barley from the various districts, because if other countries, such as Germany and England, have found that the location and the soil do make a difference, it will very likely apply to us in Canada as well.

By Mr. Cayley:

Q. What about the eastern Canadian barley—Ontario and Quebec?—A. I am not in a position to give you any information on that, because certainly in our travels we did not come across any of the Ontario barley. The barley that is suitable for malting and brewing purposes appears to be all used locally in Ontario.

By Mr. Lucas:

Q. What would be the premium secured for this high class barley over our average barley?—A. The premium secured for some of the highest type of Czecho-Slovakian and English eastern county barley was as high as 40 cents to 80 cents a bushel. They are absurdly high. We have endeavoured repeatedly to nail down maltsters or brewers to a statement as to why they pay these premiums, because based on the chemical analysis there is very little difference between this extremely high class type and the type that is being used, and for which they pay from 40 to 80 cents a bushel less, but the only definite explanation we have been able to get is, "We have found in the last forty or fifty years just exactly what the results are when we use this certain type of barley."

If we produce beer in millions in barrels, and send it over the country to be sold over the counter in pint glasses, each individual becomes a critic, and when he sees the least appearance of cloudiness in his glass of beer, he raises an objection. They tell us, "We know what we have been getting from the use of this high-class barley, and we are not going to take the chance of producing something that is not as good," and they tell us again that the actual cost of the barley is a comparatively small item in the total cost to the manufacturer, and that is why they are willing to pay these exorbitant premiums. But so far as Canadian barley is concerned, we can never hope for any such premiums. That is absolutely out of the question.

Mr. LUCAS: May I ask a question?

The ACTING CHAIRMAN: Mr. Bredt has been led away from his subject into a number of side-tracks. Perhaps you do not mind that, Mr. Bredt, or would you rather continue your statement?

WITNESS: I do not care which I do, as long as I give information.

The ACTING CHAIRMAN: We had better let Mr. Bredt make his statement, and then ask these questions.

WITNESS: I simply wanted to make this statement in connection with the top grades. There is one point I think should be brought out in connection with Trebi. The market for Trebi is a limited market. The highest estimate that we have been able to get from anyone in Great Britain is 15 million bushels. Professor Harrison and I are absolutely certain that it is at least 5 million bushels too high, and that it is more likely between 6 million and 10 million

[Mr. Paul Bredt.]

bushels per year. That is now being supplied by Californian Bay Brewing and by Chilian barley, and some of the Danubian barleys. We would have to compete with those.

At the present time Trebi is not acceptable, at least not to the highest class trade. It would have to be improved. In my opinion, the man who produces barley and chooses Trebi, if he produces the highest type and comes within one of these three top grades, he has an opportunity to possibly get a premium, but if he does not come within the three top grades, if it goes down into the feed grades, the thick husk that is characteristic of Trebi is objected to by the feeders.

Now, we are in this position: Trebi is being grown. Shall we make grades to take care of the high-class trade, or shall it be condemned? The market will be a limited one, at the most ten million bushels a year, as we have to compete as well with Chilian, Californian and Danubian barleys, and if it is over-produced it is liable to hurt the price of our Feed Barley, because it is too thick in the husk. We are not condemning the O.A.C. apparently. That is the impression the synopsis of our report published in the newspaper some time ago has given to some people. We simply make the statement that O.A.C. 21 or barley of that type has absolutely no place in the British brewing trade, brewing for beer-making. The O.A.C. type barleys have a distinct place in the distilling trade, malt extract, and some of the other allied trades, and O.A.C. barley in Canada locally is being used as a brewing barley. We are not condemning O.A.C., we are simply making the statement that it is not acceptable, or not useful, for the British brewing trade.

I want to go on from this briefly and say something about feed grades. Professor Harrison has mentioned that Great Britain and Denmark require a distinctly higher type of feed grain than our feed barley is, and they have been purchasing mostly 4 C.W. When we go into Germany, the biggest feed barley market in the world, we have 4 C.W., the next grade Rejected, and the next grade Feed Barley.

No. 4 C.W. is too high in quality for feed requirements in Germany; it is not too high in itself, but it is too high in price, and the feeders are not willing to pay that price. Rejected they consider is something that is condemned, and while rejected according to the regulations may only contain 10 per cent of wild oats, that is about the amount they are willing to take. They will not consider Rejected because they regard it as something that is condemned, and you cannot sell Rejected barley even with a Canadian certificate, in Germany, nor can you sell it in Belgium or Holland, which re-ship about 50 per cent of what they buy. They supply the west of Germany through the Rhine and the canal system that exists there.

No. 4 C.W. is too high, Rejected they will not consider, and Feed Barley contains too high a percentage of wild oats, up to 18 per cent. There is the objection of the feeder, who will not have it, it has too large a percentage of black oat hulls in the meal that is supplied. On top of that the German Food-stuffs Act prohibits the importation of grain that is not shipped as grown, and they maintain that our Feed Barley, when it is shipped with 18 per cent of wild oats—and it does contain 18 per cent of wild oats, is mixed to the minimum of the grade. On account of the high percentage of wild oats it will not be taken in at the Customs duty on Feed Barley, which is 20 marks per metric ton, but the rate on oats of 50 marks per metric ton will be imposed, and that actually shuts it out of the German market. Bear in mind that the German market takes 70 million to 80 million bushels per year of that Feed barley. When you go into Belgium there is no duty on barley imported into Belgium, but if barley or any other grain contains 15 per cent of oats or more, it does carry a duty of 6 Belgian francs per hundred kilos, and that duty of 6 francs per hundred kilos means approximately 9 cents a bushel, so you are shut out of that market too.

[Mr. Paul Bredt.]

Federal No. 2 Barley—that is the barley that has been going into Germany in millions of bushels—this Federal No. 2 may contain 10 per cent of wild oats, or oats singly or in combination, and it may contain a further 3 per cent of foreign material, seeds and other matter; it may contain 15½ per cent of moisture, and certain other requirements. But Federal No. 2 is a grade that exactly meets the requirements of the continental feeding trade. So when in the fall of 1928 trouble arose with scab in Federal No. 2 Barley, and they were prohibited from importing it, and Canadian barley, that is, Canadian barley Rejected and Feed had also been excluded on account of their admixture, too high an admixture of wild oats, it necessarily limited the amount of reasonably priced feeding barleys that were available to the German importers. About that time some Canadian and United States importers hit upon the expedient of making a private grade (that has been previously mentioned by our Barley Committee), mixing it to the standard of Federal No. 2 and sending it out as Federal No. 2, Canadian origin. Although the importation of Federal No. 2 American Barley is prohibited into Germany, they got this private notation on the seaboard certificate that it was of Canadian origin and it was accepted. So on December 21, 1928, the Bremen Association of Grain Growers—Bremen is the biggest feed barley market on the Continent—decided that only the following barleys might be purchased: Barley No. 2, Federal grade, certificates of origin from the States of Texas, Oklahoma, Kansas, Colorado, that is the Four State Barley referred to by Professor Harrison. Barley No. 2, Federal grade, Canadian origin, Rejected barley, Dominion standard and inspection, Federal Barley No. 2, Canadian origin is our barley mixed about one third 4 C.W., one-third Rejected, and one-third Feed Barley, and if that was too high in quality, some oat scalplings were put in. If it was not high enough in quality, you would have to reduce the quantity of feed barley and increase the amount of 4 C.W. It has been imported there under American certificate, but with a notation "Canadian origin," a private certificate. All over the Continent the Canadian inspection certificates enjoy an enviable reputation. We had statements from importers in Hamburg, Western Germany, Rotterdam, and Antwerp that they would prefer Canadian inspection. We are allowing it to masquerade, because we have not a grade that meets their requirements. The least we can do in order to have it go out under Port Arthur or Fort William inspection officially is to have grades that meet that situation. It is emphatically stated by these importers of Feed Barley on the Continent that they would buy that in preference to any other inspection, but at the present time we have ourselves to blame, in that we cannot open up our own market and get in our own grades, because we have not grades to meet the requirements of the feeder.

By Mr. Donnelly:

Q. Is that not the reason given for mixing at Montreal, the same reason you gave us there that they had to get American seaboard inspection?—A. That may be correct. I have been away for the last few months, and I have not been able to follow the evidence that has been given before this Committee. I am not in a position to say, but the fact remains that we do not have an official grade, and that gives the American exporters an opportunity to buy our grade and mix it. The point Professor Harrison and I objected to when we were on the Continent was this, that there are large stocks of the original Federal No. 2 Barley still available. They have made experiments so far as feeding is concerned, in the United States, and they know that in certain quantities and in certain percentages it can be fed off and used without any detrimental effects. There is no evidence, at least we have not been able to get any evidence that some of this infected American barley is mixed with this Federal 2, Canadian origin; but there is at least a probability that it is mixed.

[Mr. Paul Bredt.]

By Hon. Mr. Motherwell:

Q. Mr. Bredt, who originated that private certificate?—A. So far as we know, it was originated in New York by some exporters there,—a very ingenious plan. They could not export Federal No. 2 American origin; they wanted the Canadian barley, they liked the Canadian barley, and we did not have an official grade; and they bought our barley and mixed it up or down to that standard, whichever it happened to be; and simply by giving an intimation that it was of Canadian origin, it was acceptable to the Continental buyers.

By Mr. Millar:

Q. Do you know about when that practice originated?—A. Possibly I had better read you a statement which I obtained from the Bremen Association of Grain Importers. It gives various dates and has reference to the whole matter. "On account of the resolution of the meeting of the Association of November 10, 1926, and September 7, 1927, the members of the Association are obligated not to buy barley of lower grades than No. 2 barley Federal grade, government inspection, they may buy No. 1 to No. 4 Canada Western barley also with the addition of Tough, Dominion inspection. Owing to the condition of the American barley No. 2 it was decided on October 26, 1928, to import no more barley No. 2 and to exclude also Canadian Rejected or Canadian Feeding barley." So, on October 26, 1928, the importation of Federal No. 2 was prohibited. That referred both to Bremen and Hamburg.

By Hon. Mr. Motherwell:

Q. Did that arise out of the injurious effects which the barley had on hogs?
A. Yes.

Q. Because there was no complaint as far as I could find against the barley in August?—A. No, because that is the 1928 crop, and that had not gone over at that time.

Q. It was the 1928 crop that created the difficulty?—A. Yes, the trouble occurred in connection with it. I think that is all that is necessary to read in that connection. Then it just goes on to state what I have read before. They allowed in barley from the Gulf States, Federal No. 2 Canadian origin; they also allowed rejected barley in Dominion Standard Inspection, simply because there was so little other barley that they could get. But rejected barley, which only contains 10 per cent of wild oats, is really equal to Federal No. 2. It is the name, in this case that they object to. Whatever the reason, rejected barley would not be a popular export grade.

Q. It is nearly as bad as "Condemned"?—A. It is as bad as "Condemned".

By the Acting Chairman:

Q. The name sounds bad.—A. Yes. Of course it is not a very happy designation "Rejected Barley". It is something they are unwilling to accept.

By Mr. Bancroft:

Q. Do you know Mr. Bredt, if in this mixture which went out from the United States Canadian barley would be mixed into that, or would it be all American barley?—A. We have samples of that barley, but there is no man living who would swear it was not all Canadian barley that it did contain, or that it contained a certain percentage of American barley. That is the unfortunate point about it; and that is the point which we raised with the German importers who accepted this. It is not an official grade; and if difficulty does arise with Federal No. 2, Canadian origin, if they mixed too much scabby barley, it is the reputation of Canadian barley which suffers, and it gives us a black eye.

While we may have several barley diseases here, as Professor Harrison tells me, we never have scab affecting barley to that extent, and that is the objection. And if it came to a court action, they would not have any chance or opportunity to prove that it was not all Canadian barley, because it is just a private grade; and there is no man who could tell by looking at it or by examining it that it has been mixed with American barley. But the possibilities are that it has been so mixed, because the latter would bring a very very low price, and it would be profitable to mix it in certain quantities.

By Hon. Mr. Motherwell:

Q. If any more hogs die, they would be apt to take that as evidence?—A. Yes, surely.

By Mr. Gardiner:

Q. What Canadian barley did the Americans use?—A. 4 C.W., Rejected and Canadian Feed Barley, and mixed it in about the proportions of one-third of each, to bring it up to this Federal 2 standard, which calls for 10 per cent wild oats, and 3 per cent of other foreign material.

Q. That was all Canadian that was mixed?—A. Supposedly. If it was too high in quality, some oat scalpings could be introduced.

Q. Is there much barley going into the United States—did they buy much since?—A. Judging by the amount which goes out as Federal No. 2 Canadian origin, there must be quite a little going in.

By Mr. Lovie:

Q. What is the best barley to grow on summer-fallow for getting the best price?—A. I have my own opinion on that, but I would sooner let Professor Harrison answer that question.

Q. I would like to get an answer to that question, as to which is the best for summer-fallow. That is a pretty important question.

AN HON. MEMBER: The district I am in is getting badly infested with wild oats, but there is practically no barley grown. Have you any data as to the profit accruing from the growing of barley, as compared with the profit from growing wheat? You, being a farmer, have you any data which would be of use to another farmer?—A. That is a question which a professor in a college or an experimental farm could answer better. As a farmer, I have not spent half my time in keeping books, as yet.

In Manitoba that is a practical point and one of the reasons why the Canadian Wheat Pool Board authorized this mission into Great Britain and the Continent. In Manitoba the production of barley is not a matter of choice but is a matter of necessity. Our barley production in Manitoba has increased tremendously, and is apt to increase so long as we have not a variety of wheat which is rust resistant, and of the same high milling quality as our Marquis. So we are forced, through economic circumstances, whether it is more profitable or less profitable to produce wheat. Personally I am of the opinion that with us in Manitoba in most sections it would be more profitable to grow good barley than to try and grow wheat which may be rusted out two years out of three.

By the Acting Chairman:

Q. There is one question I would like you to answer, Mr. Bredt, or to have answered by Professor Harrison. These grades which are proposed, are they to apply on to the Western Inspection Division or to all?—A. To the Western Inspection.

Professor HARRISON: To the Western Inspection.

[Mr. Paul Bredt.]

By Mr. Gardiner:

Q. There is just one more question, and that is the question of the grades for eastern barley, Eastern Inspection.

The ACTING CHAIRMAN: This is a western delegation. I do not know whether they have any evidence to offer on the point of Eastern Inspection or not, or whether there is any evidence from any source on that. Perhaps Mr. Fraser might have a statement to make.

Mr. FRASER: I do not know that I have any statement to make, Mr. Chairman. If there are any questions which the Committee would like to ask, I would answer them if I can.

The ACTING CHAIRMAN: There were one or two questions in the earlier part of the meeting which it was suggested Mr. Fraser might answer.

By Mr. Gardiner:

Q. Would it be necessary to have different grades for Eastern Canada?

Mr. FRASER: I believe all the barley grown in Ontario and Quebec is used there. Practically none of it is exported.

By Mr. George Clark (Seed Commissioner):

Q. Mr. Chairman, might I ask Mr. Fraser whether it would be reasonable to make the restriction mentioned by Professor Harrison as to not more than 3 per cent of weed seeds, in connection with the feed grades?

Mr. FRASER: I think that would be a move in the right direction. The only question which would enter into it is supposing you had a No. 4 barley showing six or seven per cent of seeds; I do not think it would be quite feasible, if it were say six per cent, to remove three per cent and leave three per cent in it. If we got such a car as that we would have to put on five per cent; but that is practically what is done at the present time anyway.

By Mr. Gardiner:

Q. Would it not be better to remove the dockage anyway?—A. Altogether, you mean?

Q. Yes?—A. Well, if you take this No. 4 grade which is proposed here, it is supposed to correspond with the No. 2 Federal in the United States. Now it allows three per cent of seeds, 10 per cent of oats; and we might as well make our grade correspond with it, because that grade is acceptable in Germany, and those countries which use a large quantity of barley.

By Mr. Vallance:

Q. There is only one question I would like to ask, and that is the question which was asked by Mr. Lovie. We have been dealing here entirely with barley this morning, and there has been a considerable discussion on it. I think that Mr. Lovie's question, considering the representation we have here this morning, surely could be answered, so as to appear in this evidence, as to what varieties of barley will bring about the results or are most likely to bring about the desired results, or are more likely to do so than we have at the present time. We have the Deputy Minister of Agriculture, we have Mr. Newman, Mr. Clark, Professor Harrison, and Mr. Bredt, and surely among them this question could be answered.

The ACTING CHAIRMAN: Will anybody assume the responsibility of answering this question?

Mr. FRASER: I do not believe I am in a position to answer that correctly.

[Mr. J. D. Fraser.]

MR. VALLANCE: I was asking that, because no other questions were being directed to you.

MR. FRASER: I believe Professor Harrison, Mr. Newman, or Mr. Clark would be in a better position to answer that than I am.

By Hon. Mr. Motherwell:

Q. We gathered from the two witnesses preceding you, that in order to carry out the plan of standardization of barley, it would be necessary to specially bin these and prohibit the mixing of those grades, otherwise, you would have the non-brewing and the non-distilling and everything else mixed up together. Do you think it is necessary to have them specially binned?

MR. FRASER: I believe it would be necessary in the Nos. 1, 2 and 3 Extra to have those binned as graded. In the Feed grades it would appear to me that to get the best result mixing would have to be allowed.

HON. MR. MOTHERWELL: Then Section 140, which has to do with private elevators, would have to be amended, I presume, in order to exempt barley from the mixing privileges?

MR. FRASER: Well, that might be necessary.

THE ACTING CHAIRMAN: Mr. Fraser, that would require a large increase in our elevator facilities if we were to adopt these barleys and try to meet the conditions required by the foreign market?

MR. FRASER: I would not anticipate the necessary increased accommodation. Of course, if the grades are increased there will be about thirteen grades there against about nine or ten.

HON. MR. MOTHERWELL: If you cut out Kota and all its ramifications, and off-grades, the space taken up by it now would provide for all the space that this barley would require.

MR. FRASER: I believe to get the best results that we have to have such grades as are proposed here, even if it does take more space.

DR. NEWMAN: Mr. Chairman, if you will refer to the grades you will see reference to the varieties or types of barley which are at the present moment the most outstanding varieties, and inferentially the types which we recommend in the great barley growing districts of the west. Trebi barley is a relatively new variety in the west, but at practically all our experimental federal stations it is now the highest yielder. It is the highest yielder in twenty-two states of the Union, and it is the second highest yielder in many other states. So that it has yield behind it, and, as Mr. Bredt has said, there does seem to be an opening for that particular type of barley in the Old Country market, in connection with the brewing industry. O.A.C. 21 type barley, which is a type to which some very good barleys belong, such as Manchurian, Mensury, and Chinese, has been a variety that has stood the test fairly well. But going back directly to Mr. Lovie's question; the best variety to grow on summer fallow in Manitoba at the moment, we do not know of anything that we would recommend ahead of Trebi, in his location, for yield. It is not a variety that is very popular with our Canadian maltsters for brewing purposes, it is true.

THE ACTING CHAIRMAN: Is it a short straw, or a long straw?

PROFESSOR NEWMAN: It is a coarse straw and a fairly strong straw, one of the strongest straws we have, and quite early. That is a variety, I think, Mr. Lovie, that while it is not perfect by any means—and we are working on many hundreds of selections and hybrids, and hope to produce something that will

[Dr. Newman.]

be better, yet at the present moment—and I think Professor Harrison will agree with me—for your district it is that variety that would be perhaps the one you should give first consideration to.

Mr. BANCROFT: We have just been told that there is a very limited market for Trebi barley, and if you recommend it for summer fallow there is a possibility that we might over produce in that variety.

Dr. NEWMAN: Yes, that may be quite true, but we do not know yet how much inferior it really is to the other types. We do know it is a little heavier in the hull, and we also know it will yield a great many more bushels than the types we have in many other places, and extra bushels will look after a lot of husk.

The ACTING CHAIRMAN: A crop for summer fallow is our big problem in Manitoba, as you know.

Professor HARRISON: One point should be made clear in regard to the Trebi barley, as a growing barley in the old country and to O.A.C. being the growing barley in Canada. This was confusing to some of us at the beginning. In Canada we use a very short germination period in malting. O.A.C. starts uniformly and comes through quickly. In the old country, where they use a very much longer germination period, the uniformity of the Trebi does not show up. In the one place it varies in the germination compartments from about five to six days. In the other places it takes from about 11 to 13 days. If it is a day late in starting, or two days, on that long period it does not mean very much difference, with the result that our maltsters will not have Trebi barley, and over there the maltsters want Trebi barley. I thought probably that explanation was necessary.

Dr. NEWMAN: Is there not a further explanation? In the old country since the war, as has been explained to this Committee, the type of beer has changed immensely, that is, beer as turned out by a good many of those breweries, in making a light sparkling beer which has to clarify quickly, and in making that beer they have to blend one of those coarse husky barleys with it up to a percentage of from 15 to 40 per cent. So that ever since the war they have been bringing in that Trebi type of barley called Bay Brewing from California into Great Britain to blend with their old country heavy barleys, in order to give the beer this quick clarifying property.

Prof. HARRISON: The reason that they can use that is because of this long germination period.

Dr. NEWMAN: In this country they make malt for brewing purposes out of O.A.C. 21 quite acceptably, and we do know that beer made from our Canadian malt has been very readily taken by a good many of our English friends, when they have had an opportunity to test it.

Mr. LOVIE: Did your delegation see any Californian barley when you were over in the old country?

Prof. HARRISON: Yes, we saw Californian barley; we saw it in the malt houses.

Mr. LOVIE: And how does it compare with Canadian barley? Is it lighter in weight?

Prof. HARRISON: I imagine it will weigh about the same as good quality Trebi barley would. It goes over, however, cleaned. We saw one day at Bristol a cargo, and Mr. Bredt and I were rather amazed to find the good quality of the barley. When the maltsters started to first show us the barley we concluded that they were pulling out selected samples, but after we saw cargoes in that way we came to the conclusion that they were not exhibition samples, but that they were merely showing us cargoes.

[Dr. Newman.]

Mr. LOVIE: The dry climate of California was what was making me doubtful of the quality of the barley.

Prof. HARRISON: The climate that you require for the high class two-row barley is probably somewhat different from the climate required for the high class six-row barley. In two-row barley they want a thin hull; they want it starchy, and they want the protein—I say nitrogen—they want the nitrogen from one to 1.5 per cent on an oven dried basis. In the six-row barley they want this thicker hull, and they will take a higher percentage of nitrogen, indicating that that barley has been grown with a hotter maturation period. The six-row barley also must be what they term sunny or bright, and the brightness is the thing that they get in California. They get it around San Antonio in Chili and they get it also in and around the Mediterranean countries, and I do not see why we should not have that here, with the result that I think there is a possibility of developing a barley here suited for that trade. The coast barley are probably not just suited to our particular type of climate.

Mr. LOVIE: We could get, in Manitoba, our barley a good deal brighter if we threshed it when it was ready.

Mr. STEEDSMAN: Coming from Manitoba, as I do, I realize—and I am sure that the Committee will realize—that this is a very vital question there. I would like to ask the representatives of the Agricultural College of Manitoba, and the Federal Agricultural Representatives here, if they have devised any scheme, or if they now have anything in mind whereby they could outline to the various districts in Manitoba, or practically all over the west—because the need is spreading every day—some way of arriving at the most suitable varieties for the various locations, such as was adopted by Professor Newman's department with regard to varieties of wheat. Tests were made all over the country in that regard. Barley is now really a more important product in Manitoba than wheat, and I would like to know whether there is anything of that kind, or what is being done at the present time at our experimental stations; what effort is being put forth to decide which varieties are most suitable for the different conditions,—cleaning conditions of the soil, summer fallow conditions, and variations of soil and climate?

Professor HARRISON: You are familiar with the work that is being done with wheat varieties. Professor Newman's department, the college in Manitoba, and the Manitoba pool are tied up with that investigation, and along with that, but not nearly as extensive as that, there is a small amount of work being done on barley. It is hard to get a grower who will take these varieties and give them the same chance as he will wheat, because everybody still thinks of wheat as the main crop. But wherever we can get a grower who will test barley varieties we are doing that. The experimental stations and colleges have endeavoured to provide or develop varieties suited for these different trades and they have also endeavoured to determine where the better quality of the different varieties can be produced. That is not being done as thoroughly as it should, but we have in mind such a thing as that for Manitoba at least.

The witnesses retired.

The Committee adjourned until Friday, May 17 at 11 a.m.

